

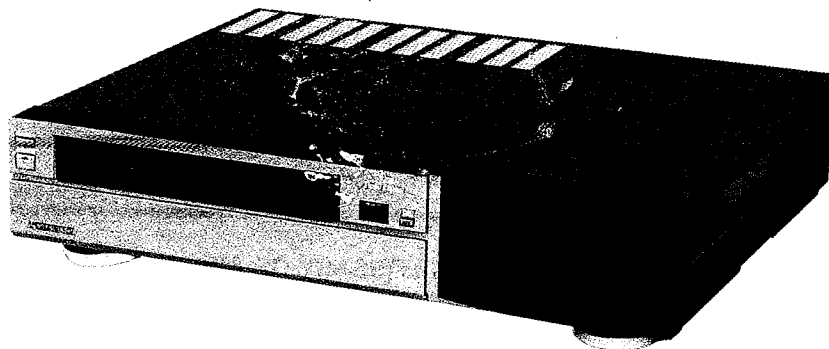
662

MITSUBISHI

# Service Manual

1989

VIDEO CASSETTE RECORDER



VHS

VHS

MODEL

HS-U61

-FI

Only cassettes marked S-VHS or VHS can be used with this video cassette recorder.

## SPECIFICATIONS

### Power Source

: VHS 1/2" high-density video cassette tape

### Power Consumption

: 120V AC; 60Hz

### Television System

: Approx. 35W  
: EIA standard (525 lines, 60 fields) NTSC color signal

### Video Recording System

: 4 rotary heads, azimuth helical scanning system

### Audio Recording System

#### HI-FI stereo

: 2 rotary heads, azimuth helical scanning system  
Frequency modulation, deep layer recording

#### Linear Audio

### Tape Speed

: 1 stationary head. 1 track (mono)  
: 1-5/16 i.p.s (standard play)  
21/32 i.p.s (long play) play back only  
7/16 i.p.s (extended play)

### Relative Head to Tape Speed

: 19.03 ft./s

### Record/Playback Time

: 160 min. with T-160 cassette  
60 min. with T-60 cassette (time is tripled in EP mode)

### Fast Forward/Rewind Time

: Approx. 2 min. with T-120 cassette

### Heads: Video

: 4 rotary single crystal heads

#### HI-FI Audio

: 2 rotary single crystal heads

#### Audio/Cont.

: 1 stationary head

#### Erase

: 1 full track head

### Video Input

: 0.5 to 2.0 Vp-p, 75 ohm unbalanced RCA pin plug

### Audio Input: Line

: -8 dB, 50k ohm unbalanced RCA pin plug

### Video Output

: 1.0 Vp-p, 75 ohm unbalanced RCA pin plug

### Audio Output

: -6 dB, 1k ohm unbalanced RCA pin plug

### Luminance Input/Output

: 1.0 Vp-p 75 ohm (S Terminal)

### Chroma Input/Output

: 0.286 Vp-p 75 ohm Burst Signal (S Terminal)

### TV Tuner

: VHF CH 2 ~ 13.  
UHF CH 14 ~ 83.  
CATV A5 ~ I (MID)  
2 ~ 6 (VHF L)  
7 ~ 13 (VHF H)  
J ~ W + 58

### Operating Temperature

: 41°F to 104°F

### RF Channel Output

: Channel 3 or 4, switchable

### RF Input/Output

: F connectors/75 ohm

### Weight

: Approx. 15 lbs

### Dimensions

: 16.6" (W), 3.6" (H), 13.3" (D)

### Timer

: 8 programs for any channel in four weeks. 24 hour digital display synchronized with integrated quartz oscillator frequency.

### Channel Selection Deck

: Frequency synthesizer system  
: F deck

# MITSUBISHI ELECTRIC SALES AMERICA, INC.

5757 Plaza Drive P.O. Box 6007 Cypress, California 90630-0007

Copyright © 1989 Mitsubishi Electric Sales America, Inc. All Rights Reserved.

# CONTENTS

---

<b>Safety Precautions</b> .....	1	<b>GLOSSARY OF ABBREVIATIONS</b> .....	19
<b>Connection</b> .....	3	<b>Parts List</b> .....	20
<b>Adjustment on Playback</b> .....	3	1. CABINET ASSEMBLY .....	20
<b>Disassembly</b> .....	4	2. PACKING PARTS .....	21
<b>How to Execute Circuit Board Service</b> .....	5	3. ELECTRICAL PARTS .....	22
<b>Electrical Adjustments</b> .....	8	4. DECK ASSEMBLY .....	33
Servo Circuit Adjustments .....	9	<b>Circuit Block Diagrams</b>	
Y/C Signal Circuit Adjustments .....	10	<b>Circuit Diagrams</b>	
Normal Audio Circuit Adjustments .....	14		
HI-FI Circuit Adjustments .....	15		
Multi Sound Circuit Adjustments .....	16		
Timer Circuit Adjustments .....	18		

---

**NOTE:** Refer to Service Manual for F-deck for the Mechanical Adjustments and Major Component Removal and Installation.

# SAFETY PRECAUTIONS

## INTRODUCTION

This manual provides service information for the adjustments of mechanical and electrical operations.

Due to design modifications, the servicing procedures and data given in this manual are subject to possible change without prior notice.

**WARNING:** Many of the programs broadcast by television stations are protected by copyright and Federal law imposes strict penalties for copyright infringement. Some motion picture companies have taken the position that home recording for noncommercial purposes is an infringement of their copyrights. Until the courts have ruled on the proper interpretation of the law as applied to home video recording, this equipment, if used to record copyrighted material, should be operated at user's own risk.

**WARNING:**  
**TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.**

**This video cassette recorder should be used with AC 120V, 60Hz only.**

## SAFETY NOTICE

Before returning VCR to the customer a safety check of the entire VCR should be made. The service technician must be sure that no protective device built into the instrument by the manufacturer has become defective or inadvertently damaged during servicing.

Observe all caution and safety related notes located on or inside the VCR cabinet.

**WARNING:** Alterations of the design or circuitry of this VCR should not be made.

Any design alterations or additions, such as circuit modifications, auxiliary speaker jacks, switches, grounding, active or passive circuitry, etc. use of unauthorized camera, cables, accessories, etc. may alter the safety characteristics of this VCR and potentially create a hazardous situation for the user.

Any design alterations or unauthorized additions will invalidate the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting from them.

Do not lubricate any motors.

When reassembling the VCR, always be certain that all the protective devices are put back in place, such as non-metallic control knobs, shield plate, etc.

When service is required, observe the original lead dress. Components that indicate evidence of overheating or other electrical or mechanical damage should be replaced.

## LEAKAGE CURRENT CHECK

Before returning the VCR to the customer, it is recommended the leakage current be measured by the following methods.

### 1. Cold Check

With the AC plug removed from the 120V AC source, place a jumper across the two AC plug prongs. Turn the AC switch on. Using an ohmmeter, connect one lead to the jumpered AC plug and touch the other lead to each exposed metal part (metal cabinet, screwheads, metal overlays, control shafts, etc.), particularly any exposed metal part having a return path to the chassis. Exposed metal parts having a return path to the chassis should have a minimum resistance reading of 1 megohm. Any resistance below this value indicates an abnormality which requires corrective action. Exposed metal parts not having a return path to the chassis will indicate an open circuit.

## 2. Hot Check

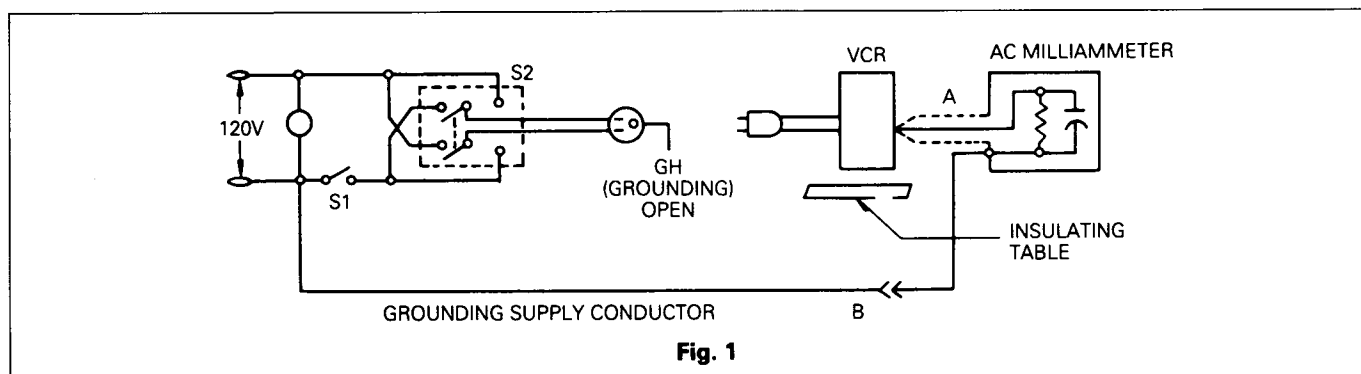
The test sequence, with reference to the measuring circuit in Fig. 1 is as follows:

- (1) With switch S1 open, the VCR is to be connected to the measuring circuit. Immediately after connection, the leakage current is measured using both positions of switch S2 and with the switching devices in the VCR in all of their operating positions.
- (2) Switch S1 is then to be closed, energizing the VCR,

and immediately after closing the switch, the leakage current is to be measured using both positions of switch S2, and with the switching devices in the VCR in all of their operating positions.

Current measurements of items (1) and (2) are to be repeated after the VCR has reached thermal stabilization.

The leakage current shall not be more than 0.5 milliamperes.



## AC Leakage Test

Avoid shock hazards. Do not connect this VCR to a TV antenna, cable or accessory that exhibits excessive leakage currents. If available, the television instrument or cable to which this VCR is connected should have the antenna cold check and the leakage current hot check performed.

## PRECAUTIONS

### Handling and storage

- Avoid using the VCR in the following places:
  - extremely hot, cold or humid places,
  - dusty places,
  - near appliances generating strong magnetic fields,
  - places subject to vibration, and
  - poorly ventilated areas.
- Be careful of moisture condensation.
- If you pour a cold liquid into a glass, water vapor in the air will condense on the surface of the glass. This is called moisture condensation.
- Moisture condensation on the head drum, one of the most critical parts of the VCR, will cause damage to the tape.
- Moisture in the air will condense on the VCR when you move the unit from a cold place to a warm place, after heating a cold room or under extreme humidity conditions. Avoid using the VCR under these conditions.
- The VCR is equipped with a moisture condensation prevention circuit. This circuit operates only when the unit is attached to an AC outlet.
- Handle the VCR carefully.

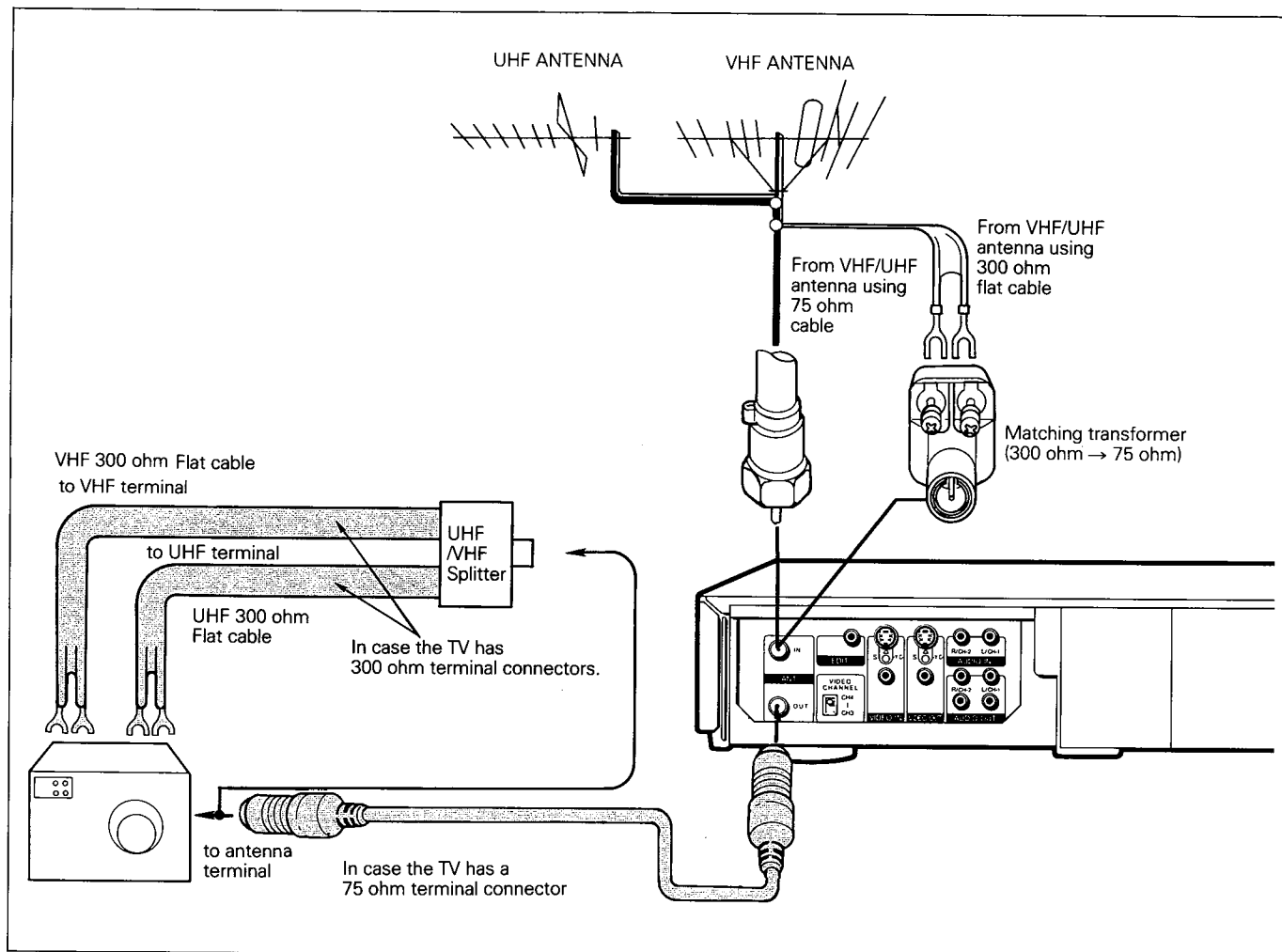
- Do not block the ventilation openings.
- Do not place anything heavy on the recorder.
- Do not place liquids on the top cover of the recorder.
- Utilize the accessory cover to prevent dust and dirt from accumulating on the recorder.
- Use the Recorder in horizontal (flat) position only.
- In case of transportation:
- Avoid violent shocks to the recorder during packing and transportation.
- Before packing, be sure to remove the cassette from the recorder.

# CONNECTION

## ANTENNA-VCR connection

A single terminal is located for both VHF and UHF signals.,  
If an antenna cable other than 75 ohm coaxial cable is

to be used, install the matching transformer (300 ohm → 75 ohm).



## VCR-TV connection

A coaxial cable is provided. To connect the Video Cassette Recorder to the antenna terminal of the TV receiver, connect one end of the cable to the "ANT OUT" connector

on the back of the Video Cassette Recorder and connect the other end of the cable to the 75 ohm terminal of the TV set. If no 75 ohm terminal is available on the TV set, a VHF/UHF splitter must be used.

# ADJUSTMENT ON PLAYBACK

## 1-1 PICTURE CONTROL ADJUSTMENT

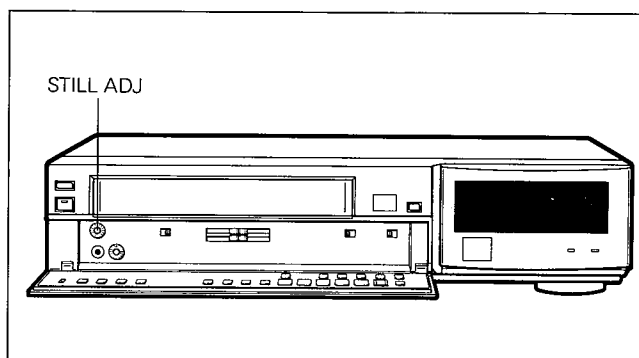
VCR picture quality in playback may be adjusted according to personal preference:

Press the VIDEO button on the remote control. (The sharpness adjustment display is turned on.)

Press the ADJUST ▲ or ▼ button to achieve a sharper or smoother picture.

## 1-2 STILL ADJUSTMENT

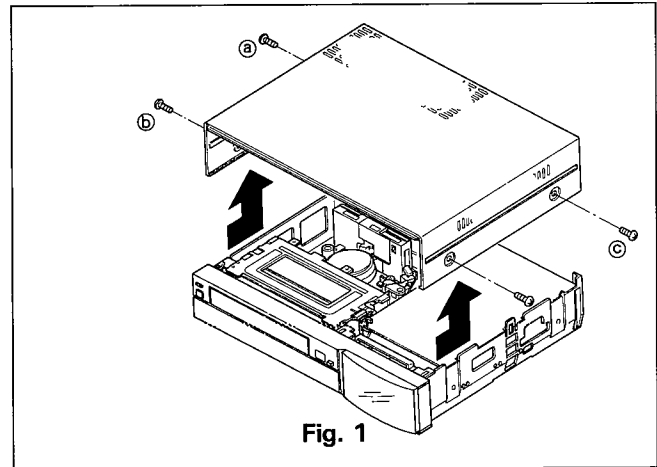
There are some cases where the picture jitters vertically in the STILL mode when the VIDEO CASSETTE being played was recorded on another VCR. In such cases, adjust the STILL ADJ CONTROL, shown in Figure, 1, until jitter stops.



# DISASSEMBLY

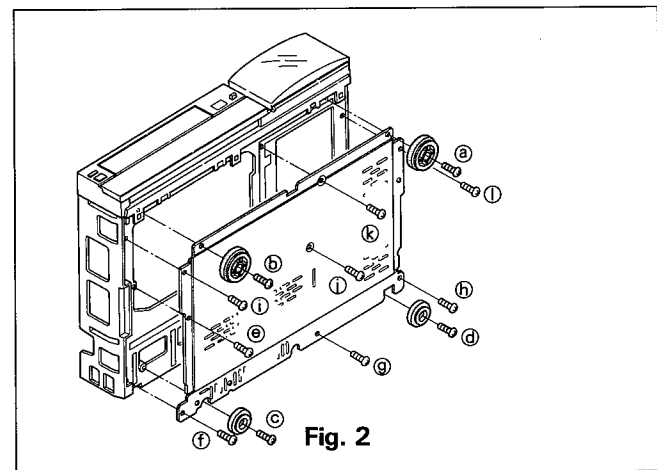
## 1. Removal of Top Cover

- A. Remove the four screws (a ~ d) on each side retaining the top cover as shown in Fig. 1.
- B. Gently expand the bottom edges of the top cover, then slide toward rear in direction of the arrows.



## 2. Removal of Bottom Cover

- A. Remove the four screws (a ~ d) retaining the insulators as shown in Fig. 2.
- B. Remove the eight screws (e ~ l) retaining the bottom cover as shown in Fig. 2.
- C. Remove the bottom cover.

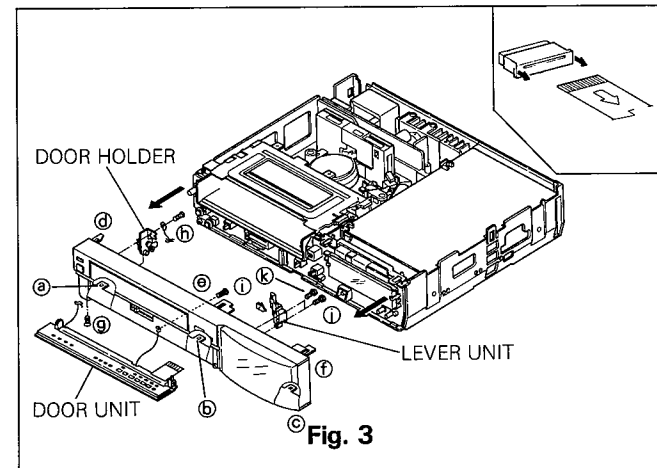


## 3. Removal of Front Panel

- A. Remove the top cover.
- B. Remove the two screws (a and b) retaining the insulators as shown in Fig. 2.
- C. Unfasten the six snaps (c ~ f).
- D. Disconnect the ribbon cable by gently lifting cover ① on the socket housing as shown in Fig. 3.
- E. Remove the front panel.

### NOTE:

To install the Front Panel, hold the Cassette Door open, mount the Front Panel to the VCR and fasten the six snaps (a ~ f) using gentle pressure to the Front Panel.



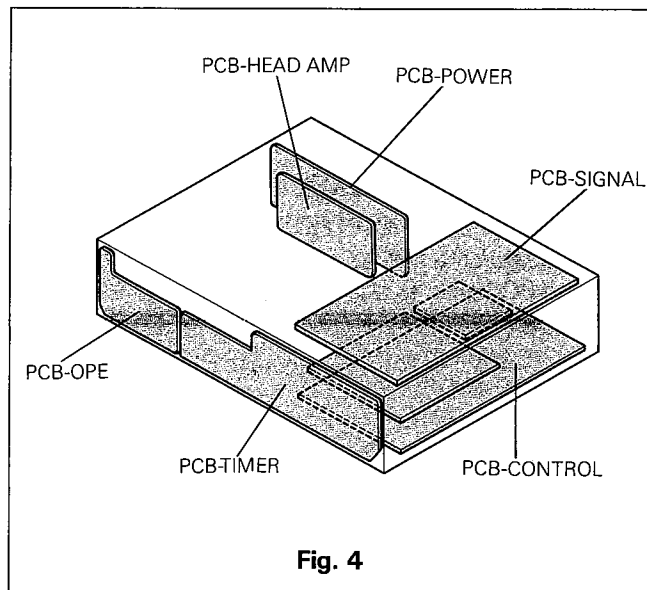
## 4. Removal of Door Unit

- A. Remove the top cover.
- B. Remove the front panel.
- C. Remove the two screws (j, k) retaining the lever unit and then remove the lever unit.
- D. Remove the two screws (g, h) retaining the door holder.
- E. Remove the screw ① retaining the ground lead and remove the door unit.

# HOW TO EXECUTE CIRCUIT BOARD SERVICE

**CAUTION: BEFORE ATTEMPTING TO REMOVE OR REPAIR ANY PCB UNPLUG THE POWER CORD FROM THE A.C. SOURCE.**

Location of Printed Circuit Boards (Refer to Fig. 4)

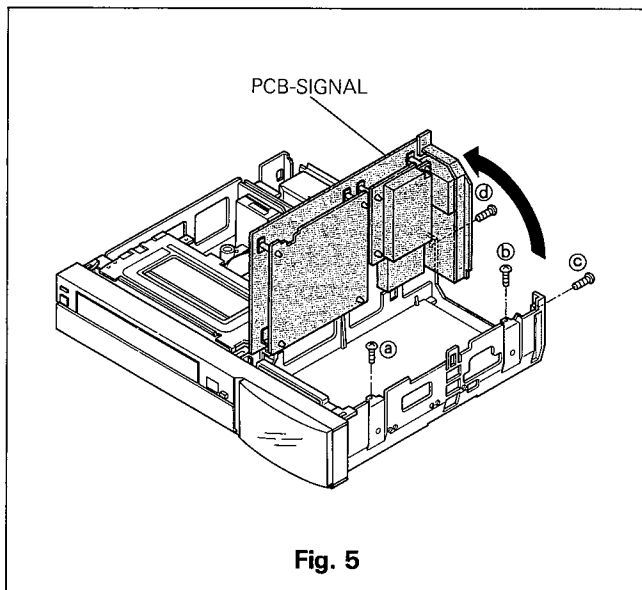


## 1. Removal of PCB SIGNAL

- A. Remove the top cover.
- B. Remove the four screws (a ~ d) as shown in Fig. 5.
- C. Rotate the PCB SIGNAL in the direction of the arrow.
- D. Use the insulating sheet under the PCB SIGNAL when servicing it by turning it inside out as shown in Fig. 6.

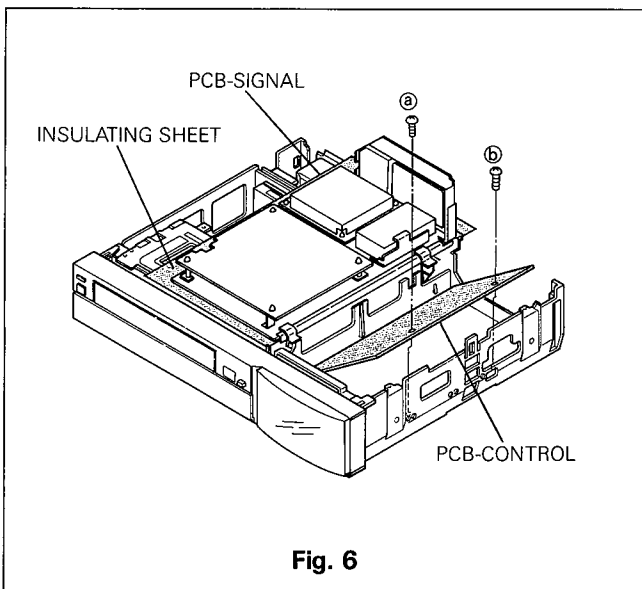
### NOTE:

Use caution when disconnecting flat cable connectors to avoid possible contact problems when reconnected.



## 2. Removal of PCB CONTROL

- A. Remove the bottom cover (Refer to page 1, item 2) and the service of the PCB CONTROL will be available.
- B. If it is necessary to remove the PCB CONTROL, comply with the following steps.
  - a. Remove the PCB SIGNAL (Item 1).
  - b. Remove the two screws (a and b) retaining the PCB CONTROL as shown in Fig. 6.

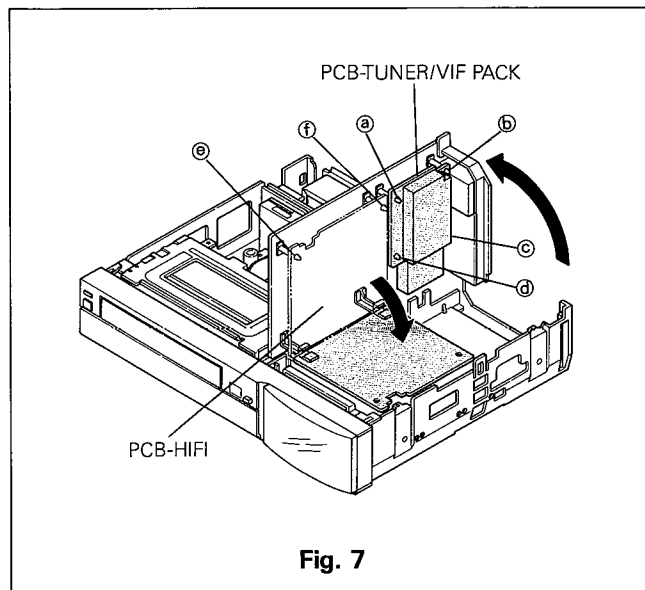


### 3. Removal of TUNER/VIF PACK

- A. Mount the PCB SIGNAL vertically.
- B. Untasten the four supports (Ⓐ ~ Ⓓ) and remove the PCB TUNER as shown in Fig. 7.

### 4. Removal of PCB HIFI

- A. Mount the PCB CONTROL vertically.
- B. Unfasten the two supports (Ⓔ and Ⓕ) and rotate the PCB HIFI as shown in Fig. 7.

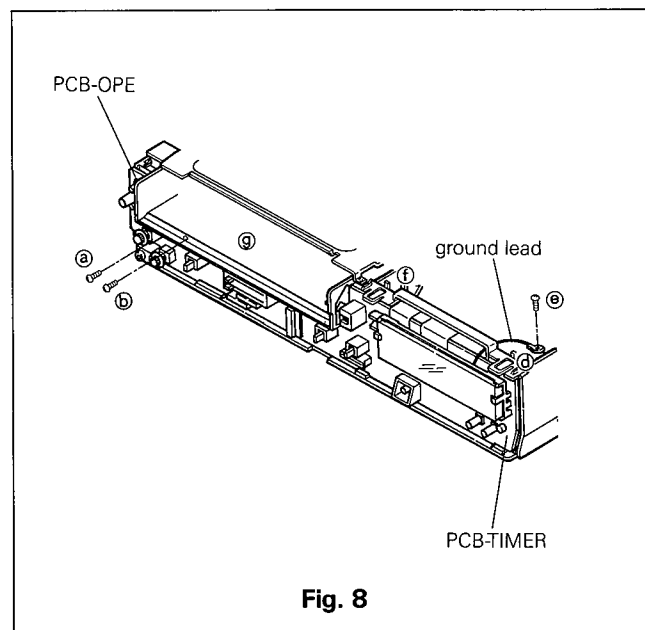


### 5. Removal of PCB OPE

- A. Remove the two screws (Ⓐ and Ⓑ) retaining the PCB OPE as shown in Fig. 8.

### 6. Removal of PCB TIMER

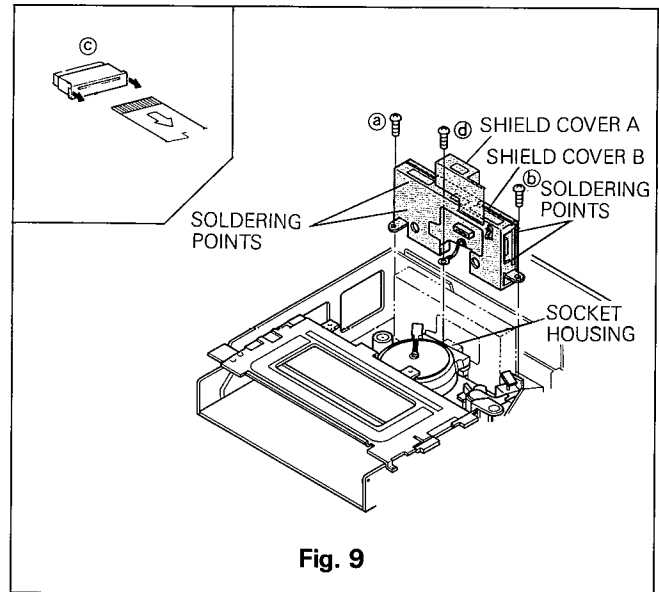
- A. Remove the Front Panel (Page 1, item 3)
- B. Remove the screw Ⓔ retaining the ground lead with PCB SIGNAL as shown in Fig. 8.
- C. Unfasten the three stopper (Ⓓ, Ⓕ and Ⓖ) and remove the PCB TIMER as shown in Fig. 8.





## 7. Removal of PCB HEAD AMP

- A. Pull the shield cover A upward to remove it.
- B. Disconnect the ribbon cable by gently lifting cover ③ on the socket housing as shown in Fig. 9.
- C. Remove three screws ①, ② and ③ retaining the wire and the PCB-head amp as shown in Fig. 9.
- D. To service the foil side, remove the shield cover B and use the extension cord (859C34405) and a wire to ground the wire removed in para. C.
- E. To service the component side unsolder the soldering points of the shield case to remove it as shown in Fig. 9.

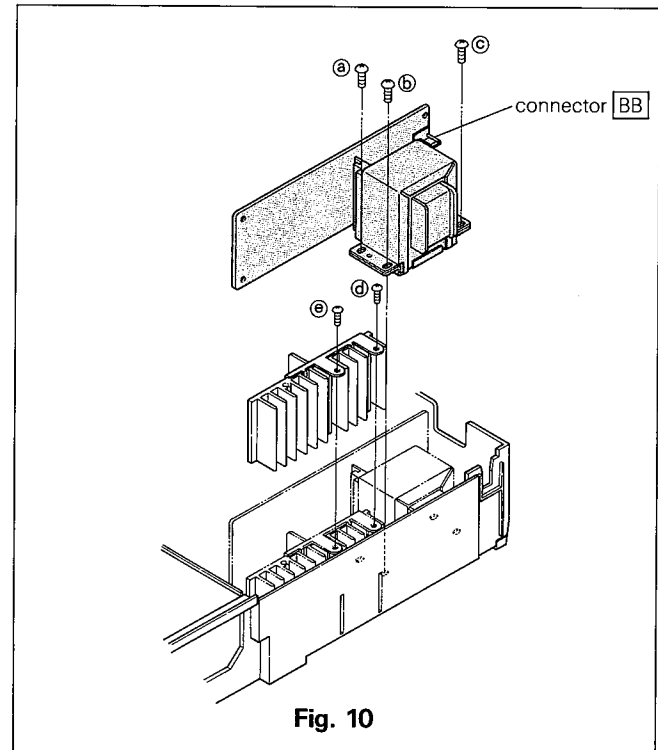


## 8. Removal of PCB POWER

- A. Remove the three screws (①, ②, and ③) retaining the PCB power as shown in Fig. 10.
- B. Remove the two screws (④ and ⑤) retaining the heat sink.
- C. Disconnect connector BB and pull the PCB upward.

### CAUTION:

The power regulators on PCB-POWER will be damaged if power is applied to the VCR without the heat sink being installed.

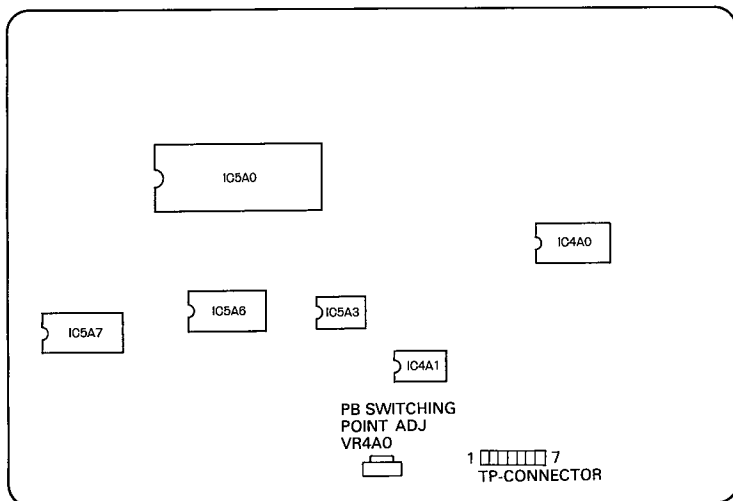


### 3. ELECTRICAL ADJUSTMENT

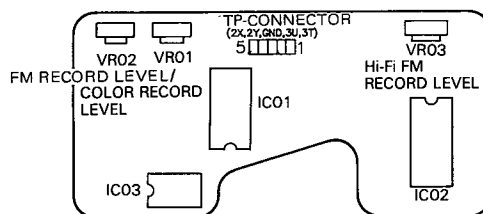
Circuit adjustments become necessary, in most cases, due to the wear of mechanical parts or following the replacement of critical components such as the video head. Certain circuit defects can often cause circuit adjustments to vary considerably. Should this occur, be sure to determine the nature of the defect and repair prior to proceeding with adjustments.

Always use the test equipment recommended for a given adjustment procedure. If the appropriate test equipment is not available, it is recommended that adjustments NOT be attempted. Refrain from the indiscreet adjustment of circuit adjustment controls unless properly equipped to do so.

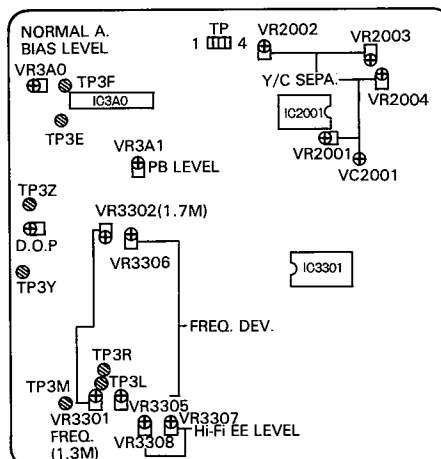
#### PCB-CONTROL (COMPONENT SIDE)



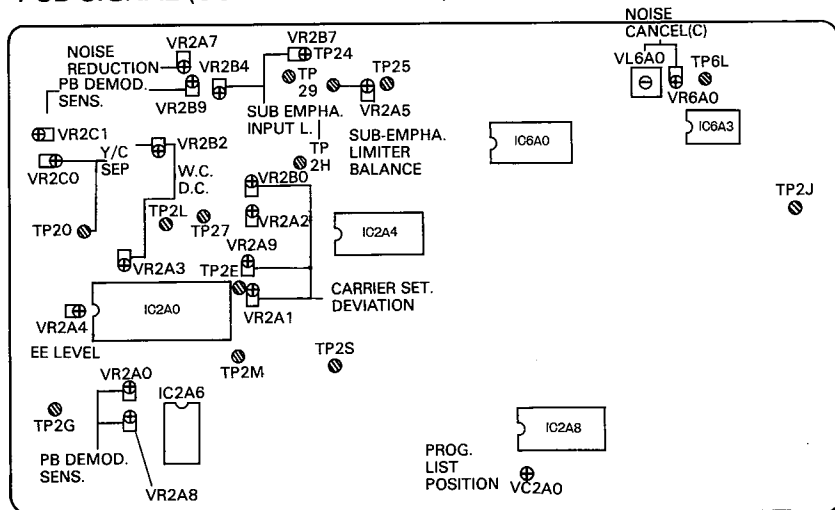
#### PCB-HEAD AMP (COMPONENT SIDE)



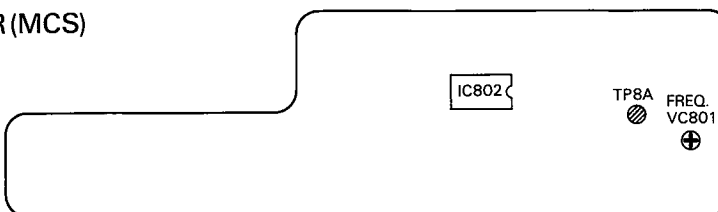
#### PCB-Hi-Fi (COMPONENT SIDE)



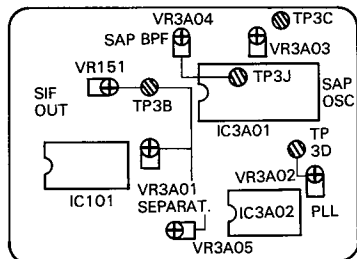
#### PCB-SIGNAL (COMPONENT SIDE)

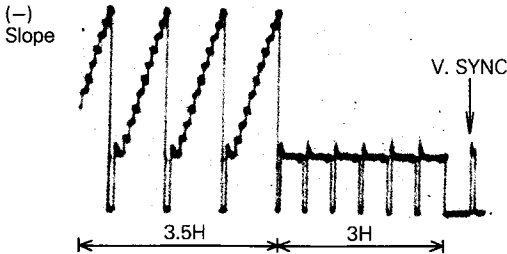
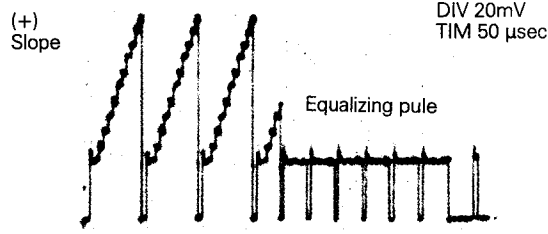


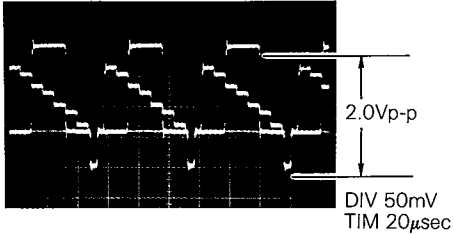
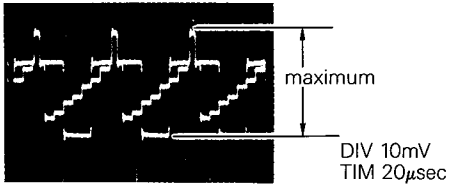
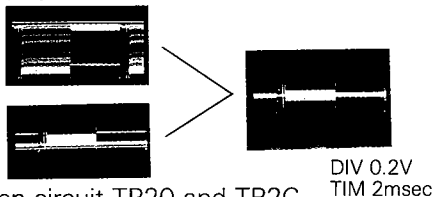
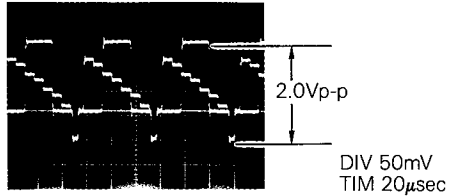
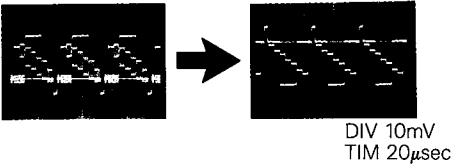
#### PCB-TIMER (COMPONENT SIDE)



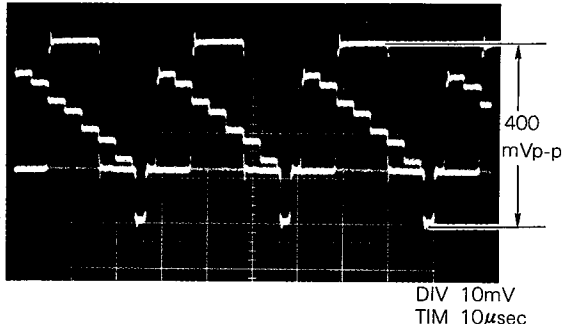
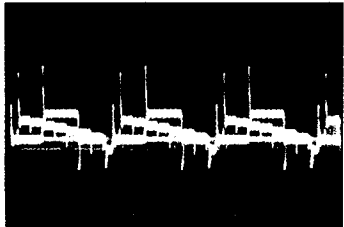
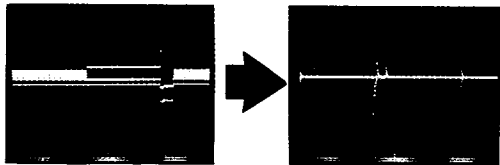
#### PCB-TUNER (MCS) (FOIL SIDE)

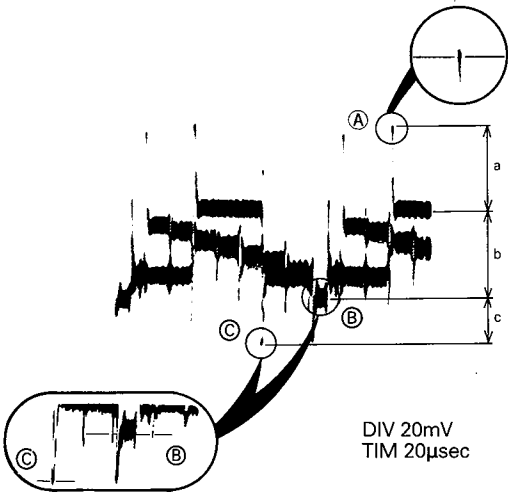
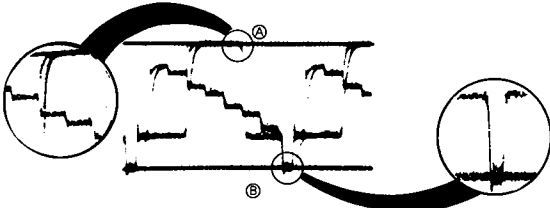


No.	ITEM	MODE	ADJ. METHOD	ADJUSTMENT PROCEDURE
Servo Circuit				
1	Playback Switching Point	Playback SP Alignment tape (Grey scale step signal)	<ul style="list-style-type: none"> <li>•Oscilloscope to TP2J (SIGNAL)</li> <li>•Oscilloscope's EXT trigger to TP2H (SIGNAL)</li> <li>•EXT trigger ( - )</li> <li>•VR4A0 (CONTROL)</li> </ul>	<ol style="list-style-type: none"> <li>1. To disable the Digital Tracking circuitry, short TP-connector #6 and #4 (GND) with a short clip lead.</li> <li>2. Adjust VR4A0 so that the trigger point is located at <math>6.5H \pm 1H</math> before the vertical synchronizing signal.</li> </ol>  <ol style="list-style-type: none"> <li>3. Check that the trigger point is located at <math>6.5H \pm 1H</math> before the vertical synchronizing signal.</li> </ol>  <ol style="list-style-type: none"> <li>4. Remove the clip lead between TP-connector #6 and #4 (GND).</li> </ol>

No.	ITEM	MODE	ADJ. METHOD	ADJUSTMENT PROCEDURE
Y/C Signal Circuit				
2	E-E Output Level	Supply video signal (Grey scale) to EXT-IN. *S-VHS SW to OFF EE mode	<ul style="list-style-type: none"> <li>•Oscilloscope to TP2C (SIGNAL)</li> <li>•VR2A4 (SIGNAL)</li> </ul>	1. Short circuit TP20 and TP2G. 2. Adjust VR2A4 so that the level of VIDEO OUT is 2.0Vp-p. 
3	Y/C Separation	Supply VIDEO signal (Grey scale) EP REC mode *S-VHS SW to ON  Supply VIDEO signal (Color bar)	<ul style="list-style-type: none"> <li>•Oscilloscope to Pin ① of TP connector (S-SUB)</li> <li>•VR2001 (S-SUB)</li> <li>•Oscilloscope's GND to Pin ④ of TP connector</li> <li>•Oscilloscope to Pin ② of TP connector (S-SUB)</li> <li>•VR2002 (S-SUB)</li> <li>•Oscilloscope to VIDEO OUT ② (Luminance)</li> <li>•VR2C0 (SIGNAL)</li> <li>•Oscilloscope to TP2E (SIGNAL)</li> <li>•VR2003 (S-SUB)</li> <li>•VC2001 (S-SUB)</li> <li>•VR2004 (S-SUB)</li> </ul>	1. Short circuit TP20 and TP2G. 2. Adjust VR2001 so that the video signal is maximum.  3. Adjust VR2002 so that the luminance signal is minimum.  4. Open circuit TP20 and TP2G 5. Adjust VR2C0 so that the level of the video out is 2.0Vp-p.  6. Turn the VR2A3 fully counterclockwise and VR2B2 fully clockwise as viewed from foil side of the PCB-SIGNAL. 7. Alternate adjustments in the following sequence: VR2003, VC2001, VR2004 so that the chroma signal is minimum. 

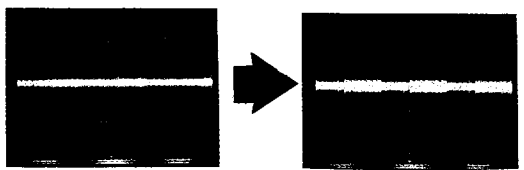
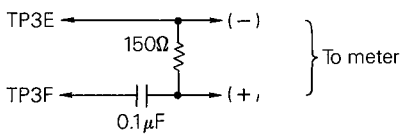
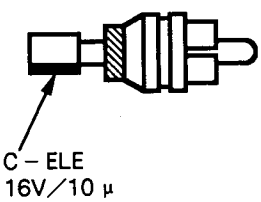
\*Remote Function

No.	ITEM	MODE	ADJ. METHOD	ADJUSTMENT PROCEDURE
4	Sub-emphasis Input Level/ S-VHS Clamp Input Level	Supply VIDEO signal (Color bar) EP REC mode S-VHS SW to ON	<ul style="list-style-type: none"> <li>•Oscilloscope to TP29 (SIGNAL)</li> <li>•VR2B7 (SIGNAL)</li> </ul> <ul style="list-style-type: none"> <li>•Oscilloscope to TP2E (SIGNAL)</li> <li>•VR2B4 (SIGNAL)</li> </ul>	<p>1. Adjust VR2B7 so that the luminance signal is 400mVp-p.</p>  <p>DIV 10mV TIM 10µsec</p> <p>2. Adjust VR2B4 so that the video signal level of S-VHS mode coincides with the video signal level of Normal VHS mode.</p>  <p>DIV 20mV TIM 20µsec</p>
5	Sub-emphasis Limiter Balance	Supply no signal (EXT-IN) S-VHS SW to ON	<ul style="list-style-type: none"> <li>•DC Voltmeter to TP24 (SIGNAL)</li> <li>•VR2A5 (SIGNAL)</li> </ul>	<p>1. Adjust VR2A5 so that the DC level is 3.48V.</p>
6	Y Signal Noise Reduction	Supply VIDEO signal (Color bar) EE mode S-VHS SW to OFF	<ul style="list-style-type: none"> <li>•Oscilloscope to TP2L (SIGNAL)</li> <li>•VR2A7 (SIGNAL)</li> </ul>	<p>1. Adjust VR2A7 so that the video signal disappears.</p>  <p>DIV 20mV TIM 2msec</p>

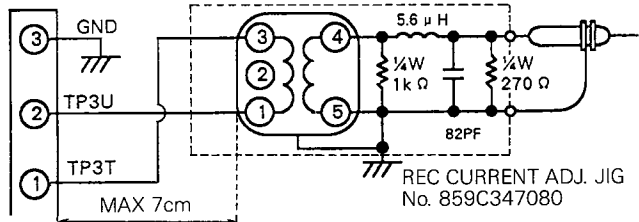
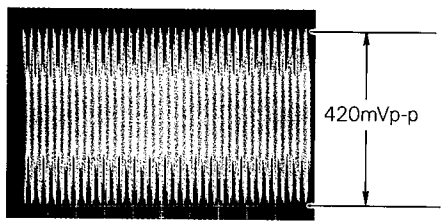
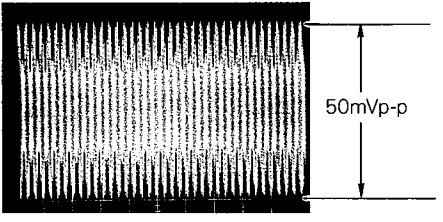
No.	ITEM	MODE	ADJ. METHOD	ADJUSTMENT PROCEDURE									
7	White Clip/ Dark Clip  <b>Note:</b> Perform these adjustment procedures in the order given.	Supply VIDEO signal (Color bar) EP REC mode *S-VHS SW to ON  *S-VHS SW to OFF	<ul style="list-style-type: none"><li>•Oscilloscope to TP2E (SIGNAL)</li><li>•VR2B2 (SIGNAL)</li><li>•VR2B3 (SIGNAL)</li><li>•VR2A3 (SIGNAL)</li><li>•VR2B1 (SIGNAL)</li></ul>	<ol style="list-style-type: none"><li>1. Adjust VR2B2 (W-CLIP) so that the overshoot appearing at the white peak side is 110%.</li><li>2. Adjust VR2A3 (D-CLIP) so that the undershoot below sync tip is 70% respectively.</li><li>3. Confirm that overshoot appearing at the white peak and the undershoot below sync tip is 100% and 55% respectively.</li></ol> <table><tr><td></td><td>S-VHS mode</td><td>Normal mode</td></tr><tr><td>White Clip (a:b)</td><td>1:1:1</td><td>1:1</td></tr><tr><td>Dark Clip (b:c)</td><td>1:0.7</td><td>1:0.55</td></tr></table> 		S-VHS mode	Normal mode	White Clip (a:b)	1:1:1	1:1	Dark Clip (b:c)	1:0.7	1:0.55
	S-VHS mode	Normal mode											
White Clip (a:b)	1:1:1	1:1											
Dark Clip (b:c)	1:0.7	1:0.55											
8	Carrier Set, Deviation	Supply VIDEO signal (Color bar) EP REC mode S-VHS SW to ON  *S-VHS SW to OFF	<ul style="list-style-type: none"><li>•Oscilloscope to TP2M (SIGNAL) via the carrier checker</li><li>•Oscilloscope's EXT trigger to TP2S (SIGNAL)</li><li>•VR2B0 (SIGNAL) VR2A9 (SIGNAL)</li><li>•VR2A1 (SIGNAL) VR2A2 (SIGNAL)</li></ul>	<ol style="list-style-type: none"><li>1. Adjust VR2B0 (FM CAR SET) and VR2A9 (FM DEV SET) so that the response waveform 5.4MHz (sync-tip) line and 7.0MHz (deviation) just touch each of white lines on the oscil- loscope.</li><li>2. Adjust VR2A1 (FM CAR SET) and VR2A2 (FM DEV SET) so that the response waveform 3.45MHz (sync-tip) line and 4.45MHz (devia- tion) just touch each of white lines on the oscil- loscope.</li></ol> <table><tr><td></td><td>S-VHS mode</td><td>Normal mode</td></tr><tr><td>Deviation line (A)</td><td>7.0MHz</td><td>4.45MHz</td></tr><tr><td>Sync-tip line (B)</td><td>5.4MHz</td><td>3.45MHz</td></tr></table> 		S-VHS mode	Normal mode	Deviation line (A)	7.0MHz	4.45MHz	Sync-tip line (B)	5.4MHz	3.45MHz
	S-VHS mode	Normal mode											
Deviation line (A)	7.0MHz	4.45MHz											
Sync-tip line (B)	5.4MHz	3.45MHz											

\*Remote Function



No.	ITEM	MODE	ADJ. METHOD	ADJUSTMENT PROCEDURE
11	Noise Cancel (C)	Playback alignment tape (Color bar)	<ul style="list-style-type: none"> <li>•Oscilloscope to TP6L (SIGNAL)</li> <li>•VR6A0 (SIGNAL)</li> <li>•VL6A0 (SIGNAL)</li> </ul>	<p>1. Alternate adjustments in the following sequence: VR6A0, VL6A0, VR6A0 so that the video signal disappears.</p>  <p>DIV 20mV TIM 5msec Probe 1 : 1</p>
Normal Audio Circuit				
<p>*1. Set the Audio monitor SW to Normal mode.            *2. Set the Input select SW to EXT mode.            *3. Supply video signal to the video input jack.</p>				
12	Playback Audio Level	Playback alignment tape (Color bar)	<ul style="list-style-type: none"> <li>•AC voltmeter to Audio output terminal (L-CH or R-CH)</li> <li>•VR3A1 (HIFI)</li> </ul>	<p>1. Set the Video Mute SW to OFF.            2. Adjust VR3A1 for an Audio output level of <math>-6\text{dBs}</math>. (390V. r.m.s): <math>1\text{mW } 600\Omega</math> <math>0.775\text{V}</math>. r.m.s input impedance = <math>47\text{k}\Omega</math>            3. Confirm that the level fluctuation is less than <math>\pm 1\text{dB}</math>. If level fluctuation is over <math>\pm 1\text{dB}</math> then check the mechanical adjustments.</p>
13	Audio Bias Level	SP REC mode	<ul style="list-style-type: none"> <li>•AC voltmeter to TP3E (HIFI) and TP3F (HIFI) through a high pass filter.</li> </ul> <p><b>NOTE:</b> Be careful that the AC voltmeter housing does not touch the VCR chassis.</p> <ul style="list-style-type: none"> <li>•VR3A0 (HIFI)</li> </ul> 	<p>1. Insert a shorted RCA type Phonoplug into the AUDIO IN terminal.</p>  <p>2. Confirm that the monitor TV etc. does not affect the indication of the AC voltmeter and then adjust VR3A0 for a level of <math>2.7\text{mV}</math>. r.m.s.</p> <p><b>NOTE:</b> Do not set the VCR to PLAY mode with the AC voltmeter connected. (The audio amplifier will be overloaded.)</p>



No.	ITEM	MODE	ADJ. METHOD	ADJUSTMENT PROCEDURE
Hi-Fi Audio Circuit				
*1. Set the Audio monitor SW to Hi-Fi mode. *2. Set the Input select SW to EXT mode.				
14	OSC Frequency	REC mode	<ul style="list-style-type: none"> <li>•Frequency Counter to TP3L (HIFI)</li> <li>•VR3301 (HIFI)</li> <li>•Frequency Counter to TP3R (HIFI)</li> <li>•VR3302 (HIFI)</li> </ul>	1. Short circuit Audio input jack (L-CH and R-CH). 2. Adjust VR3301 so that Frequency at TP3L is $1.3000\text{MHz} \pm 3\text{KHz}$ . 3. Adjust VR3302 so that Frequency at TP3R is $1.6800\text{MHz} \pm 3\text{KHz}$ .
15	E-E Level	Supply Audio signal (1kHz, -8dBm) to Audio input jack (R-CH and L-CH)	<ul style="list-style-type: none"> <li>•AC voltmeter to Audio Output jack</li> <li>•L-CH Audio out</li> <li>•VR3307 (HIFI)</li> <li>•R-CH Audio out</li> <li>•VR3308 (HIFI)</li> </ul>	1. Set the REC LEVEL ADJ to center click stop position. 2. Adjust VR3307 so that the audio output level at L-CH is -6dBs. 3. Adjust VR3308 so that the audio output level at R-CH is -6dBs.
16	FM REC Level	REC mode S-VHS SW to OFF	<ul style="list-style-type: none"> <li>•Oscilloscope to TP3T and TP3U on PCB HEAD AMP Via REC CURRENT ADJ. JIG.</li> <li>•VR03(HEAD AMP)</li> </ul>	1. Short circuit Audio input jack (L-CH and R-CH). 2. Adjust VR03 so that the level at TP3T is 420mVp-p after being REC mode for 5 minutes or longer.
<div style="display: flex; align-items: flex-start;"> <div style="flex: 1;"> <p>Head Amp PCB TP Connector</p>  </div> <div style="flex: 1; margin-left: 20px;">  <p>420mVp-p</p> </div> </div> <p><b>Note.</b> Being REC mode for 20 sec, adjust to 400mVp-p.</p>				
17	Drop Out Pulse Level	Playback mode N-VHS mode	<ul style="list-style-type: none"> <li>•Oscilloscope to TP3Z (HIFI)</li> <li>•VR3309 (HIFI)</li> <li>•Oscilloscope's EXT trigger to TP3Y (HIFI)</li> </ul>	1. Apply color bar signal without audio signal to EXT-IN and set the recorder to SP REC mode. 2. Play back above self-recorded tape. 3. Adjust VR3309 so that the envelope at TP3Z is 50mVp-p. <b>Note:</b> If the envelope differ with channels in this case, the adjustment should be performed at smaller envelope channel.
 <p>50mVp-p</p>				

No.	ITEM	MODE	ADJ. METHOD	ADJUSTMENT PROCEDURE
				<b>Note:</b> Confirm FM REC LEVEL (ITEM 18) if minimum level of envelope is less than 50mVp-p.
Multi Sound Circuit				
18	PLL		TP3D/VR3A02 (PCB-TUNER)/ Freq. Counter	<ol style="list-style-type: none"> <li>1. Ground TP3B.</li> <li>2. Connect a frequency counter to TP3D through the pad (859C34709) shown in Fig. 3-16.</li> <li>3. Turn the recorder on and allow warm-up time of 3 to 10 minutes. Adjust VR3A02 for a frequency of <math>63.04 \pm 0.1\text{kHz}</math>.</li> <li>4. Remove the ground at TP3B.</li> </ol>
<p><b>Fig. 3-16</b></p>				
19	SAP BPF		TP3J/VR3A04 (PCB-TUNER)/ Signal Generator	<ol style="list-style-type: none"> <li>1. Ground TP1H on the PCB-TUNER through the 1k<math>\Omega</math> resistor.</li> <li>2. Apply a 62.936kHz, 420mVp-p sine wave to TP3B.</li> <li>3. Connect an oscilloscope to TP3J.</li> <li>4. Adjust VR3A04 for minimum signal level.</li> <li>5. Remove the resistor from TP1H.</li> </ol>

No.	ITEM	MODE	ADJ. METHOD	ADJUSTMENT PROCEDURE
20	SAP OSC	E-E	TP3C/VR3A03 (PCB-TUNER)/ Signal Generator AC voltmeter	<ol style="list-style-type: none"> <li>1. Ground TP1H on the PCB-TUNER through the 1k<math>\Omega</math> resistor.</li> <li>2. Apply a 78.67kHz, 420mVp-p sine wave to TP3B.</li> <li>3. Connect an AC voltmeter to TP3C.</li> <li>4. Adjust VR3A03 to a level of 3.5 <math>\pm</math> 0.1V.</li> <li>5. Remove the resistor from TP1H.</li> </ol>
21	Separation	E-E	AUDIO-OUT (R)/ VR3A01, VR3A05 (PCB-TUNER)/ Multi sound signal source, AC voltmeter, Oscilloscope	<ol style="list-style-type: none"> <li>1. Ground TP1H on the PCB-TUNER through the 1k<math>\Omega</math> resistor from TP1H.</li> <li>2. Preset VR3A05 to the center position.</li> <li>3. Apply COMPOSITE signal to TP3B. Set COMPOSITE signal to MONO 300Hz 100% and adjust the output level of COMPOSITE signal for a level on TP3B of 700mVp-p on the oscilloscope.</li> <li>4. Set the COMPOSITE signal to STEREO LCH-ONLY, 300Hz 100%.</li> <li>5. Connect an AC voltmeter to Audio OUT (R) and adjust VR3A01 for minimum level.</li> <li>6. Set the COMPOSITE signal to STEREO LCH-ONLY, 3kHz 100% and adjust VR3A05 for minimum level on Audio OUT (R).</li> <li>7. Remove the 1k<math>\Omega</math> resistor from TP1H.</li> </ol>

No.	ITEM	MODE	ADJ. METHOD	ADJUSTMENT PROCEDURE
22	SIF OUT	E-E (TV signal)	TP3B/VR151 (PCB-TUNER)/ Oscilloscope	<ol style="list-style-type: none"> <li>1. Apply a <math>80 \pm 3\text{dB}</math> (<math>0\text{dB} = 1\mu\text{V}</math>, <math>80\text{dB} = 10^4\mu\text{V}</math>) TV signal to antenna terminal of the recorder, and tune to the TV signal.</li> <li>2. Adjust VR151 for a level at TP3B of <math>700 \pm 10\text{mV}</math> on the oscilloscope.</li> </ol>
23	Separation	E-E (TV signal)	VR3A01 (PCB-TUNER)	<ol style="list-style-type: none"> <li>1. Apply a <math>80 \pm 3\text{dB}</math> (<math>0\text{dB} = 1\mu\text{V}</math>, <math>80\text{dB} = 10^4\mu\text{V}</math>) TV signal having multi sound signal to antenna terminal of the recorder and tune to the TV signal.</li> <li>2. Adjust VR3A01 for maximum separation between LCH and RCH.</li> </ol>
Timer Circuit				
24	Frequency	STBY	TP8A/VC8A0 (PCB TIMER)	<ol style="list-style-type: none"> <li>1. Connect a frequency counter to TP8A and set it to the period mode.</li> <li>2. Apply power to the VCR, and adjust VC8A0 for the period of <math>6.835938 \pm 0.000030</math> Msec with the VCR in the STANDBY mode. (power switch: OFF)</li> </ol>
25	Program List Position	E-E	VC2A0 (PCB-SIGNAL)	<ol style="list-style-type: none"> <li>1. Apply an RF signal (color bar) in EE mode. Make certain that color bar is displayed at the center of the monitor.</li> <li>2. Turn on the program list button.</li> <li>3. Connect an oscilloscope to TP-2J.</li> <li>4. Adjust VC2A0 of the control PCB so that the time from the trailing edge of H-sync to the right end of the character becomes <math>52.5\mu\text{sec}</math>, as shown in Fig. 3-17.</li> </ol>

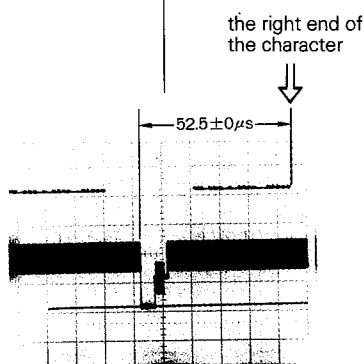


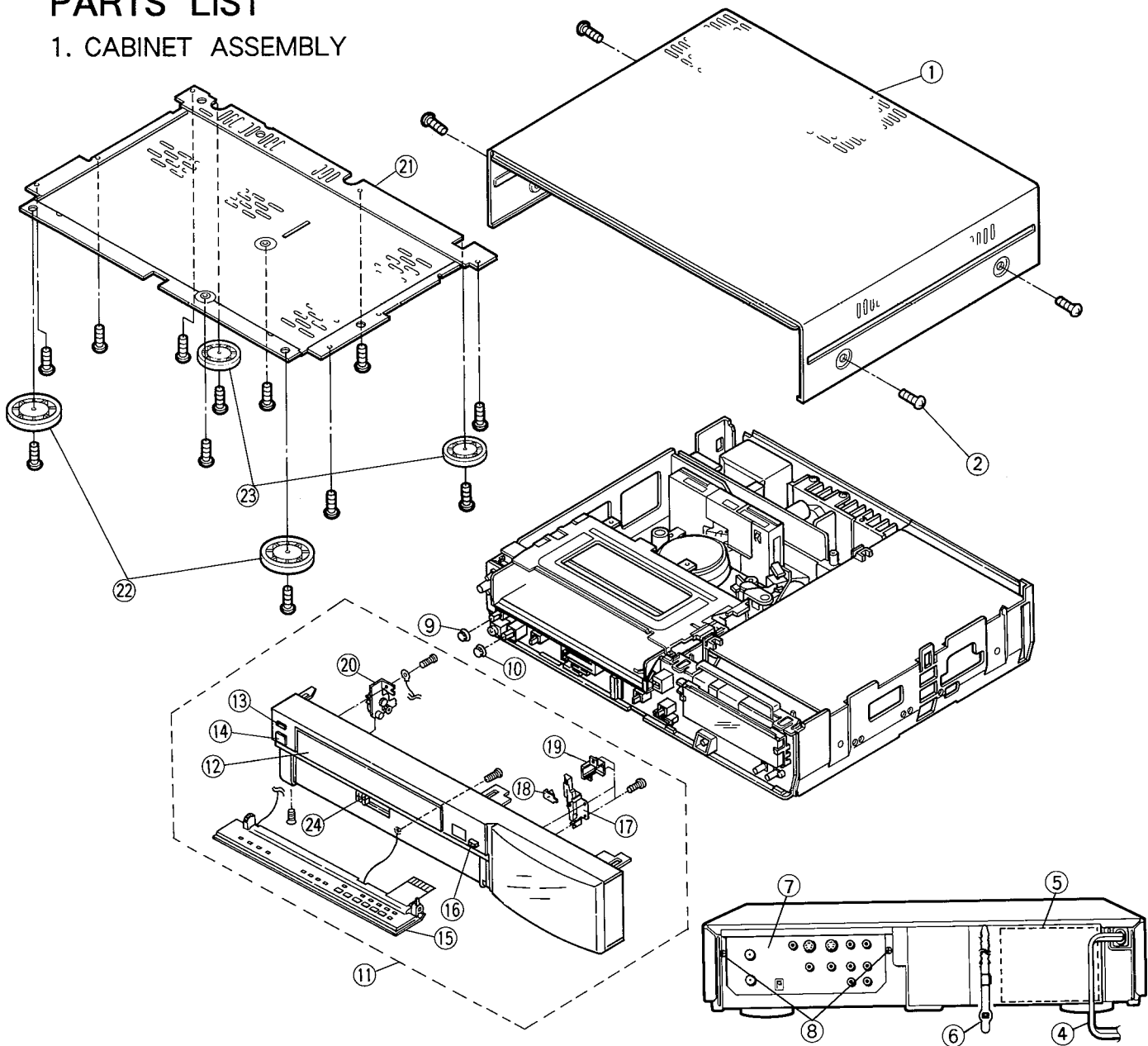
Fig. 3-17

# GLOSSARY OF ABBREVIATIONS

<b>A/C</b>	: Audio/Control	<b>LIM</b>	: Limiter
<b>ACC</b>	: Automatic Color Control	<b>LPF</b>	: Low-Pass Filter
<b>A.E</b>	: Audio Erase	<b>LM</b>	: Loading Motor
<b>AFC</b>	: Automatic Frequency Control		
<b>AFT-D</b>	: Automatic Fine Tuning Door Switch	<b>MDA</b>	: Motor Drive Amplifier
<b>AGC</b>	: Automatic Gain Control	<b>MC</b>	: Mechanical Control
<b>AL</b>	: After Load	<b>MIC</b>	: Microphone
<b>AMP</b>	: Amplifier	<b>MOD</b>	: Modulator
<b>ANT</b>	: Antenna		
<b>A-PB</b>	: Audio-Playback	<b>N</b>	: Not Normal
<b>A-REC</b>	: Audio-Recording		
<b>ALC</b>	: Automatic Level Control	<b>OPE</b>	: Operation
		<b>OSC</b>	: Oscillator
<b>B-FS</b>	: Brake Forward Search	<b>O-PWV</b>	: ON/OFF Command from Remote Decoder
<b>B-RS</b>	: Brake Reverse Search		
<b>BPF</b>	: Band-Pass Filter	<b>PB</b>	: Play Back
<b>B/W</b>	: Black and White	<b>PG</b>	: Pulse Generator
<b>BS</b>	: Band SW	<b>P/R-SW</b>	: P.B/REC-SW
		<b>PCB</b>	: Printed Circuit Board
<b>CASS</b>	: Cassette	<b>PIC</b>	: Picture Control
<b>CP</b>	: Capstan	<b>P/R</b>	: Play/Record
<b>CP-FG</b>	: Capstan-Frequency Generator	<b>PSC</b>	: Pulse swallow control
<b>CP-F/R</b>	: Capstan-Forward/Reverse	<b>PWT-SET</b>	: Power TV Set
<b>CP-M</b>	: Capstan-Motor	<b>PWV</b>	: ON/OFF Command to B+ Switching Circuit
<b>CONV</b>	: Converter		
<b>CTL</b>	: Control	<b>REC</b>	: Recording
<b>C-LAMP</b>	: Cassette Lamp	<b>REF</b>	: Reference
<b>C-I LAMP</b>	: Cassette Indicator Lamp	<b>RIS</b>	: Record Inhibit Switch
<b>CE</b>	: Chip Enable	<b>REW</b>	: Rewind
<b>CE</b>	: Not Chip Enable	<b>REG</b>	: Regulator
<b>CK</b>	: Clock	<b>RS</b>	: Reverse Search
<b>CL</b>	: Clear	<b>REC-2</b>	: Record Command for the Fine Editing Circuit
<b>CNT</b>	: Counter	<b>R-FS</b>	: Reel Drive Forward Search
<b>CP R-R</b>	: Capstan Reverse Rotation	<b>R-P/R</b>	: Reel Drive Play/Record
<b>CS-1</b>	: Cassette Switch 1		
<b>CS-2</b>	: Cassette Switch 2	<b>S/AL</b>	: Stop After Load
		<b>SL</b>	: Slow
<b>DAL</b>	: Delay-After Loading	<b>SLOK</b>	: Slow OK
<b>DEMODO</b>	: Demodulator	<b>S/P</b>	: Still/Pause
<b>DET</b>	: Detector	<b>SS</b>	: Start Sensor
<b>DL</b>	: Delay Line	<b>SRV-REC</b>	: Servo Record
<b>DL-REV</b>	: During Reverse	<b>SS</b>	: Not Speed Search
<b>DL-FWD</b>	: During Forward	<b>S-STOP</b>	: Stop Command
<b>DOC</b>	: Drop Out Compensator	<b>STOK</b>	: Still OK
<b>DL-SL</b>	: During Slow	<b>STW</b>	: Stop Watch
<b>DL-SS</b>	: During Not Speed Search	<b>SENS</b>	: Sensor
<b>DOP</b>	: Drop Out Pulse	<b>STBY</b>	: Stand By
<b>EF</b>	: Emitter Follower	<b>TM</b>	: Take up Motor
<b>EMPHA</b>	: Emphasis	<b>T-REC</b>	: Timer-Record
<b>EQ</b>	: Equalizer	<b>T.P</b>	: Test Point
<b>EE</b>	: Electronic-Electronic	<b>TR</b>	: Transistor
<b>ES</b>	: End Sensor	<b>TU-P</b>	: Tuner-Power
<b>FE-H</b>	: Full Erase Head	<b>UL</b>	: Unload
<b>FF</b>	: Fast Forward		
<b>FG</b>	: Frequency Generator	<b>VS</b>	: Voltage Synthesizer
<b>FL-SW</b>	: Front Loading SW	<b>V.SYNC</b>	: Vertical Sync
<b>FLM</b>	: Front Loading Motor	<b>VCO</b>	: Voltage Controlled Oscillator
<b>F/R-SW</b>	: FF/Rewind Switch	<b>VXO</b>	: Variable Crystal Oscillator
<b>F/R</b>	: Forward/Reverse		
<b>FS</b>	: Forward Search	<b>W/D</b>	: White/Dark
<b>G</b>	: Ground	<b>X'OSC</b>	: Crystal Oscillator
		<b>Y/C</b>	: Luminance/Chrominance
<b>HE</b>	: Hall Element		
<b>H-LED</b>	: Humidity-LED		
<b>H-SENS</b>	: Humidity-Sensor		
<b>HPF</b>	: High-Pass Filter		

# PARTS LIST

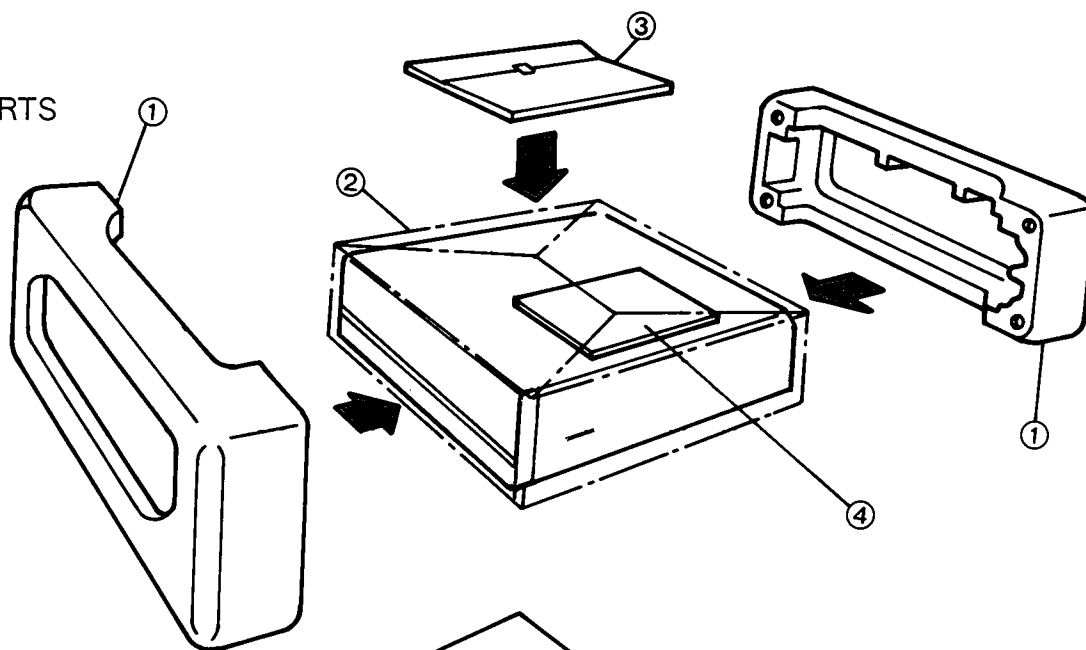
## 1. CABINET ASSEMBLY



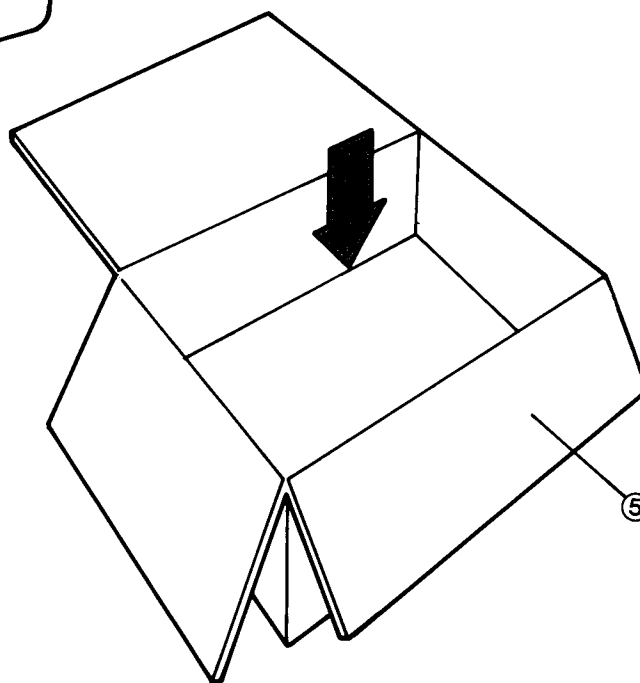
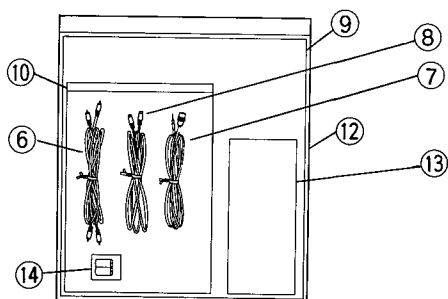
■ : Critical Component    ○ : NEW PARTS

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION	SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
○ 1	968C020030	TOP COVER ASSY		○ 16	734D467030	BUTTON PUSH	NOT SETTLED
2	669D223080	SCREW		○ 17	592C874010	LEVER ASSY	NOT SETTLED
4	246C050050	AC POWER CORD		○ 18	641C884010	SLIDER	NOT SETTLED
6	641C748010	CORD BAND		○ 19	641C885010	SUPPORTER	NOT SETTLED
○ 7	761B171020	ANTENNA COVER		○ 20	520C023010	DUMPER ASSY	NOT SETTLED
8	669D359040	SCREW		○ 21	590A267010	BOTTOM PANEL	
9	734D428070	TRACKING KNOB		○ 22	771C085060	INSULATOR-F	
10	734D428080	TRACKING KNOB		23	771C086010	INSULATOR-R	
○ 11	701B169030	FRONT UNIT		○ 24	704C655020	LEVEL KNOB	
○ 12	702B675040	CASSETTE DOOR					
○ 13	704C695030	BUTTON EJECT					
○ 14	734D466030	BUTTON POWER					
○ 15	939P287030	DOOR UNIT					

## 2. PACKING PARTS



## ACCESSORY-B



ITEM No.	PARTS No.	PARTS NAME	DESCRIPTION
PACKING PARTS			
1	803A171010	PACKING CUSHION	FOR AC POWER CORD
2	831D190030	PACKING SHEET	
3	----	ACCESSORY-A	
4	----	ACCESSORY-B	
○ 5	802C940010	PACKING CASE	
	831D198020	PACKING BAG	
ACCESSORY - A			
○	871C877090	INSTRUCTION BOOK	
	831D181020	PACKING BAG	
○	851C902010	CHANNEL MEMORY SHEET	
	851B544010	SHEET CAUTION DEW	

ITEM No.	PARTS No.	PARTS NAME	DESCRIPTION
ACCESSORY - B			
6	242C938010	CABLE(2P)	1.5M
7	242D248020	CABLE	
8	242D335010	CABLE(S)	
9	829C054070	PACKING SHEET	SUM-3(L), 2PCS
10	831D110080	PACKING BAG	
12	831D181020	PACKING BAG	
13	939P309010	REMOTE HAND UNIT	
14	----	BATTERY	

### 3. ELECTRIC PARTS

○: NEW PARTS

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION	SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
IC 01	272P221020	IC	XRA7254S	○Q 102	260P817030	CHIP TRANSISTOR	2SA1037K
IC 02	272P221020	IC	XRA7254S	○Q 103	260P818030	CHIP TRANSISTOR	2SC2412K
IC101	272P150010	IC	M51496P	○Q 105	260P817030	CHIP TRANSISTOR	2SA1037K
IC2A0	272P352010	IC	M52070SP	Q 107	260P585010	TRANSISTOR	2SD1682-R, S
IC2A1	267P208010	IC	ADL-DN001M-17	Q 2A0	260P559040	TRANSISTOR	2SC1740S-R, S
IC2A3	272P265010	IC	BA7021	Q 2A2	260P604010	TRANSISTOR	DTC124ES/UN4212
○IC2A4	272P317010	IC	M52054SP	Q 2A3	260P604010	TRANSISTOR	DTC124ES/UN4212
IC2A5	267P034010	IC	EMP2 (B079-1)	Q 2A4	260P604010	TRANSISTOR	DTC124ES/UN4212
IC2A6	263P053090	IC	TC4053BP/MC14053	Q 2A5	260P604010	TRANSISTOR	DTC124ES/UN4212
○IC2A7	267P059010	IC	SYNC-DET B095-1	Q 2A6	260P604010	TRANSISTOR	DTC124ES/UN4212
IC2A8	263P740010	IC	M50455-071SP	Q 2A7	260P256010	TRANSISTOR	2SA1115-E, F
○IC2A9	272P372020	IC	NJM2244L	Q 2A8	260P256010	TRANSISTOR	2SA1115-E, F
IC2B0	266P016010	IC	LA7016	Q 2A9	260P604010	TRANSISTOR	DTC124ES/UN4212
IC2B1	266P016010	IC	LA7016	Q 2B0	260P559040	TRANSISTOR	2SC1740S-R, S
○IC2B2	267P060010	IC	FM-PRE2 B096-1	Q 2B1	260P559040	TRANSISTOR	2SC1740S-R, S
○IC2B3	267P061010	IC	REC-FM B097-1	Q 2B2	260P604010	TRANSISTOR	DTC124ES/UN4212
○IC2B4	267P078010	IC	V-PIX (B106-1)	Q 2B3	260P604010	TRANSISTOR	DTC124ES/UN4212
IC2001	266P947010	IC	MN3801	Q 2B4	260P604010	TRANSISTOR	DTC124ES/UN4212
IC3A0	272P234010	IC	LA7295	Q 2C0	260P559040	TRANSISTOR	2SC1740S-R, S
IC3301	263P053090	IC	TC4053BP/MC14053	Q 2C1	260P559040	TRANSISTOR	2SC1740S-R, S
○IC3302	272P376030	IC	XRA15218N	Q 2C2	260P256010	TRANSISTOR	2SA1115-E, F
○IC3303	272P376030	IC	XRA15218N	Q 2C3	260P604010	TRANSISTOR	DTC124ES/UN4212
○IC3304	272P377010	IC	BA7700KI	Q 2C4	260P604010	TRANSISTOR	DTC124ES/UN4212
IC3A01	272P223010	IC	CX20112	Q 2C5	260P256010	TRANSISTOR	2SA1115-E, F
IC3A02	272P222010	IC	CXA1011P	Q 2C6	260P604010	TRANSISTOR	DTC124ES/UN4212
IC4A0	263P784010	IC	MN67472MQF	Q 2C7	260P603010	TRANSISTOR	DTA124ES/UN4112
IC4A1	272P237010	IC	LA6324N	Q 2C9	260P559040	TRANSISTOR	2SC1740S-R, S
○IC5A0	263P259010	IC	M50747-A31SP	Q 2D0	260P256010	TRANSISTOR	2SA1115-E, F
IC5A1	263P077010	IC	TC4077BP/MC14077BP	Q 2D1	260P654040	TRANSISTOR	2SC2058S-N, P
IC5A2	272P235010	IC	TA72915	Q 2D2	260P256010	TRANSISTOR	2SA1115-E, F
IC5A3	263P011020	IC	TC4011BP	Q 2D3	260P604010	TRANSISTOR	DTC124ES/UN4212
○IC5A6	263P260010	IC	M50927-206SP	Q 2D4	260P604010	TRANSISTOR	DTC124ES/UN4212
○IC5A7	263P296010	IC	M50925-362SP	Q 2D5	260P604010	TRANSISTOR	DTC124ES/UN4212
IC5A8	266P419010	IC	M5223P	Q 2E0	260P559040	TRANSISTOR	2SC1740S-R, S
IC6A0	272P195010	IC	HA118053	Q 2E1	260P256010	TRANSISTOR	2SA1115-E, F
○IC6A1	272P390010	IC	BA7604	Q 2E2	260P604010	TRANSISTOR	DTC124ES/UN4212
○IC6A2	272P402010	IC	NJM2243L	Q 2E3	260P603010	TRANSISTOR	DTA124ES/UN4112
IC6A3	272P231010	IC	HA118054	Q 2E4	260P604010	TRANSISTOR	DTC124ES/UN4212
IC7A0	263P258010	IC	M50925-348SP	Q 2E5	260P604010	TRANSISTOR	DTC124ES/UN4212
IC801	263P257010	IC	μ PD75216AGF	Q 2E6	260P604010	TRANSISTOR	DTC124ES/UN4212
IC802	272P064010	IC	M58630P	Q 2E8	260P604010	TRANSISTOR	DTC124ES/UN4212
IC902	266P010010	IC	μ PC574J, K, L	Q 2F1	260P604010	TRANSISTOR	DTC124ES/UN4212
IC960	267P008010	IC	STK5472	Q 2F2	260P562010	TRANSISTOR	2SA952
Q 02	260P807010	CHIP TRANSISTOR	DT124K	Q 2F3	260P256010	TRANSISTOR	2SA1115-E, F
Q 04	260P807010	CHIP TRANSISTOR	DT124K	Q 2F4	260P256010	TRANSISTOR	2SA1115-E, F
Q 07	260P805090	CHIP TRANSISTOR	2SC3053-C, D	Q 2F5	260P256010	TRANSISTOR	2SA1115-E, F
Q 08	260P805090	CHIP TRANSISTOR	2SC3053-C, D	Q 2F6	260P654040	TRANSISTOR	2SC2058S-N, P
Q 09	260P807010	CHIP TRANSISTOR	DT124K	Q 2F7	260P604010	TRANSISTOR	DTC124ES/UN4212
Q 11	260P416050	TRANSISTOR	2SC2274-E, F	Q 2F8	260P255040	TRANSISTOR	2SA950-Y
Q 12	260P807010	CHIP TRANSISTOR	DT124K	Q 2F9	260P604010	TRANSISTOR	DTC124ES/UN4212
Q 13	260P805090	CHIP TRANSISTOR	2SC3053-C, D	Q 2G0	260P604010	TRANSISTOR	DTC124ES/UN4212
Q 22	260P805090	CHIP TRANSISTOR	2SC3053-C, D	Q 2G1	260P654040	TRANSISTOR	2SC2058S-N, P
○Q 101	260P818030	CHIP TRANSISTOR	2SC2412K	Q 2G2	260P559040	TRANSISTOR	2SC1740S-R, S
				Q 2G3	260P654040	TRANSISTOR	2SC2058S-N, P
				Q 2G4	260P604010	TRANSISTOR	DTC124ES/UN4212



SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION	SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
Q 2G5	260P562010	TRANSISTOR	2SA952	Q 5C0	260P559040	TRANSISTOR	2SC1740S-R, S
Q 2G6	260P256010	TRANSISTOR	2SA1115-E, F	Q 5C1	260P604010	TRANSISTOR	DTC124ES/UN4212
Q 2002	260P338040	TRANSISTOR	2SC2603-E, F	Q 5C2	260P559040	TRANSISTOR	2SC1740S-R, S
○Q 2003	260P818030	CHIP TRANSISTOR	2SC2412K	Q 5C3	260P604010	TRANSISTOR	DTC124ES/UN4212
○Q 2004	260P818030	CHIP TRANSISTOR	2SC2412K	Q 5C4	260P560010	TRANSISTOR	2SA933S-R, S
○Q 2007	260P818030	CHIP TRANSISTOR	2SC2412K	Q 5C5	260P559040	TRANSISTOR	2SC1740S-R, S
○Q 2008	260P818030	CHIP TRANSISTOR	2SC2412K	Q 5C7	260P604010	TRANSISTOR	DTC124ES/UN4212
○Q 2009	260P818030	CHIP TRANSISTOR	2SC2412K	Q 5D1	260P604010	TRANSISTOR	DTC124ES/UN4212
Q 2010	260P807010	CHIP TRANSISTOR	DT124K	Q 5D2	260P559040	TRANSISTOR	2SC1740S-R, S
○Q 2011	260P818030	CHIP TRANSISTOR	2SC2412K	Q 5D3	260P603010	TRANSISTOR	DTA124ES/UN4112
○Q 2012	260P818030	CHIP TRANSISTOR	2SC2412K	Q 6A0	260P654040	TRANSISTOR	2SC2058S-N, P
○Q 2013	260P818030	CHIP TRANSISTOR	2SC2412K	Q 6A1	260P604010	TRANSISTOR	DTC124ES/UN4212
○Q 2014	260P818030	CHIP TRANSISTOR	2SC2412K	Q 6A2	260P654040	TRANSISTOR	2SC2058S-N, P
Q 2015	260P806010	CHIP TRANSISTOR	DTA124K	Q 6A3	260P604010	TRANSISTOR	DTC124ES/UN4212
Q 3A0	260P629060	TRANSISTOR	2SC3331-S, T, U	Q 6A4	260P654040	TRANSISTOR	2SC2058S-N, P
○Q 3A1	260P818030	CHIP TRANSISTOR	2SC2412K	Q 6A5	260P654040	TRANSISTOR	2SC2058S-N, P
○Q 3A4	260P818030	CHIP TRANSISTOR	2SC2412K	Q 6A6	260P604010	TRANSISTOR	DTC124ES/UN4212
○Q 3301	260P836020	CHIP TRANSISTOR	2SC3326-B	Q 6A7	260P559040	TRANSISTOR	2SC1740S-R, S
○Q 3302	260P836020	CHIP TRANSISTOR	2SC3326-B	Q 6A8	260P654040	TRANSISTOR	2SC2058S-N, P
Q 3303	260P807010	CHIP TRANSISTOR	DT124K	Q 6B0	260P256010	TRANSISTOR	2SA1115-E, F
○Q 3304	260P818030	CHIP TRANSISTOR	2SC2412K	Q 6B1	260P559040	TRANSISTOR	2SC1740S-R, S
Q 3305	260P807010	CHIP TRANSISTOR	DT124K	Q 7A0	260P603010	TRANSISTOR	DTA124ES/UN4112
Q 3306	260P807010	CHIP TRANSISTOR	DT124K	Q 7A2	260P604010	TRANSISTOR	DTC124ES/UN4212
○Q 3308	260P818030	CHIP TRANSISTOR	2SC2412K	Q 7A3	260P560010	TRANSISTOR	2SA933S-R, S
Q 3309	260P807010	CHIP TRANSISTOR	DT124K	Q 802	260P559040	TRANSISTOR	2SC1740S-R, S
○Q 3A01	260P817030	CHIP TRANSISTOR	2SA1037K	Q 903	260P255040	TRANSISTOR	2SA950-Y
○Q 3A02	260P818030	CHIP TRANSISTOR	2SC2412K	Q 904	260P586060	TRANSISTOR	2SB892-S, T, U
○Q 3A07	260P818030	CHIP TRANSISTOR	2SC2412K	Q 909	260P604010	TRANSISTOR	DTC124ES/UN4212
Q 3A08	260P807010	CHIP TRANSISTOR	DT124K	Q 971	260P438010	TRANSISTOR	2SD1273-Q
Q 4A0	260P338040	TRANSISTOR	2SC2603-E, F	Q 972	260P438040	TRANSISTOR	2SD1273
Q 4A1	260P338040	TRANSISTOR	2SC2603-E, F	D 01	264P821010	CHIP DIODE	HSM2836
Q 4A2	260P256010	TRANSISTOR	2SA1115-E, F	D 02	264P821010	CHIP DIODE	HSM2836
Q 4A3	260P559050	TRANSISTOR	2SC1740S-E	D 101	264P502010	DIODE	HZ5ALL
Q 4A5	260P338040	TRANSISTOR	2SC2603-E, F	D 102	264P803010	CHIP DIODE	MC2838
Q 4A6	260P560040	TRANSISTOR	2SA933S-S	D 103	264P341020	DIODE	HZ11A1
Q 4A7	260P559050	TRANSISTOR	2SC1740S-E	D 2A0	264P515010	DIODE	MA165
Q 4A8	260P338040	TRANSISTOR	2SC2603-E, F	D 2A1	264P104050	DIODE	HZ-9C1
Q 4A9	260P338050	TRANSISTOR	2SC2603-G	D 2A3	264P515010	DIODE	MA165
Q 4B0	260P256010	TRANSISTOR	2SA1115-E, F	D 2A4	264P515010	DIODE	MA165
Q 571	268P014020	TRANSISTOR	PN205L-(NC)	D 2A5	264P515010	DIODE	MA165
Q 572	268P014020	TRANSISTOR	PN205L-(NC)	D 2A6	264P515010	DIODE	MA165
Q 573	268P044010	PHOTO INTERRUPTER	ON2270-R	D 2A7	264P515010	DIODE	MA165
Q 574	268P044010	PHOTO INTERRUPTER	ON2270-R	D 2A8	264P515010	DIODE	MA165
Q 575	268P045010	PHOTO INTERRUPTER	GP1L52	D 2B0	264P515010	DIODE	MA165
Q 5A0	260P559040	TRANSISTOR	2SC1740S-R, S	D 2B2	264P515010	DIODE	MA165
Q 5A1	260P560010	TRANSISTOR	2SA933S-R, S	D 2B3	264P515010	DIODE	MA165
Q 5A2	260P559040	TRANSISTOR	2SC1740S-R, S	D 2B5	264P515010	DIODE	MA165
Q 5A3	260P560010	TRANSISTOR	2SA933S-R, S	D 2B8	264P515010	DIODE	MA165
Q 5B2	260P560010	TRANSISTOR	2SA933S-R, S	D 2B9	264P515010	DIODE	MA165
Q 5B3	260P560010	TRANSISTOR	2SA933S-R, S	D 2C0	264P515010	DIODE	MA165
Q 5B4	260P560010	TRANSISTOR	2SA933S-R, S	D 2C1	264P515010	DIODE	MA165
Q 5B5	260P559040	TRANSISTOR	2SC1740S-R, S	D 2D0	264P123030	DIODE	1SS99
Q 5B6	260P603010	TRANSISTOR	DTA124ES/UN4112	D 2001	264P515010	DIODE	MA165
Q 5B8	260P559040	TRANSISTOR	2SC1740S-R, S	D 2002	264P123030	DIODE	1SS99
Q 5B9	260P604010	TRANSISTOR	DTC124ES/UN4212	D 2003	264P123030	DIODE	1SS99

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION	SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
D 3A2	264P515010	DIODE	MA165	D 812	264P045040	DIODE	1S2471
D 3A3	264P515010	DIODE	MA165	D 813	264P045040	DIODE	1S2471
D 3303	264P515010	DIODE	MA165	D 814	264P045040	DIODE	1S2471
D 3304	264P515010	DIODE	MA165	D 815	264P045040	DIODE	1S2471
D 4A0	264P515010	DIODE	MA165	D 816	264P045040	DIODE	1S2471
D 4A1	264P515010	DIODE	MA165	D 817	264P045040	DIODE	1S2471
D 570	264P307020	LIGHT EMITTING DIODE	GL-451	D 818	264P045040	DIODE	1S2471
D 571	264P515010	DIODE	MA165	D 819	264P045040	DIODE	1S2471
D 5A0	264P515010	DIODE	MA165	D 820	264P045040	DIODE	1S2471
D 5A1	264P045010	DIODE	1S2076	D 821	264P045040	DIODE	1S2471
D 5A2	264P501040	DIODE	HZ3ALL	D 822	264P045040	DIODE	1S2471
D 5A3	264P515010	DIODE	MA165	D 823	264P045010	DIODE	1S2076
D 5A4	264P515010	DIODE	MA165	D 824	264P045010	DIODE	1S2076
D 5A5	264P515010	DIODE	MA165	D 830	264P045040	DIODE	1S2471
D 5A6	264P515010	DIODE	MA165	D 834	264P341070	DIODE	HZ6C2
D 5A7	264P515010	DIODE	MA165	D 835	264P313040	DIODE	SLR-34MC3
D 5A8	264P045010	DIODE	1S2076	D 836	264P313040	DIODE	SLR-34MC3
○D 5B0	264P342010	DIODE	HZ5B3	D 838	264P534010	LIGHT EMITTING DIODE	SLS-5601-2
D 5B1	264P465060	DIODE	EQA02-12B	D 840	264P341070	DIODE	HZ6C2
D 5B2	264P515010	DIODE	MA165	D 901	264P430030	DIODE	DSA3A1 (17M FORMING)
D 5B3	264P342070	DIODE	HZ4C2	D 902	264P430030	DIODE	DSA3A1 (17M FORMING)
D 5C0	264P515010	DIODE	MA165	D 903	264P430030	DIODE	DSA3A1 (17M FORMING)
D 5C2	264P515010	DIODE	MA165	D 904	264P430030	DIODE	DSA3A1 (17M FORMING)
D 5C3	264P515010	DIODE	MA165	D 905	264P430030	DIODE	DSA3A1 (17M FORMING)
D 5C4	264P515010	DIODE	MA165	D 906	264P430030	DIODE	DSA3A1 (17M FORMING)
D 5C5	264P515010	DIODE	MA165	D 907	264P430030	DIODE	DSA3A1 (17M FORMING)
D 5C6	264P515010	DIODE	MA165	D 908	264P430030	DIODE	DSA3A1 (17M FORMING)
D 5C8	264P461050	DIODE	EQA02-06B	D 913	264P301010	DIODE	1SS82 (TP)
D 5D0	264P515010	DIODE	MA165	D 914	264P301010	DIODE	1SS82 (TP)
D 5D1	264P515010	DIODE	MA165	D 916	264P045010	DIODE	1S2076
D 5D4	264P515010	DIODE	MA165	D 917	264P045010	DIODE	1S2076
D 5D5	264P515010	DIODE	MA165	D 918	264P342030	DIODE	HZ30-3
D 5D6	264P515010	DIODE	MA165	D 960	264P045010	DIODE	1S2076
D 5D8	264P515010	DIODE	MA165				
D 5D9	264P515010	DIODE	MA165				
D 5001	264P313040	DIODE	SLR-34MC3	BF3301	409P356010	BAND PASS FILTER	
D 6A0	264P515010	DIODE	MA165	○BPF2A0	409P479010	BAND PASS FILTER	
D 6A1	264P515010	DIODE	MA165	BPF6A0	409P441010	BAND PASS FILTER	SBP-4316
D 6A2	264P515010	DIODE	MA165	○BPF6A1	409P559010	BAND PASS FILTER	
D 6A3	264P515010	DIODE	MA165	CF101	296P024020	CERAMIC FILTER	TPS4. 5MB7
D 6A4	264P515010	DIODE	MA165	CF151	296P014010	CERAMIC FILTER	SFE-5. 74MB
D 6A5	264P515010	DIODE	MA165	CF152	296P087010	CERAMIC FILTER	CDA4. 5ME23
D 6A6	264P515010	DIODE	MA165	CF2A0	299P051010	CERAMIC RESONATOR	
D 6A7	264P515010	DIODE	MA165	CF5A0	299P118020	CERAMIC RESONATOR	CST8. 00MT
D 6A8	264P515010	DIODE	MA165	CF5A1	299P116010	CERAMIC RESONATOR	KBR-4. 0MES
D 6A9	264P515010	DIODE	MA165	CF5A2	299P118010	CERAMIC RESONATOR	CST2. 00MG
D 7A3	264P515010	DIODE	MA165	CF7A0	299P116010	CERAMIC RESONATOR	KBR-4. 0MES
D 801	264P460040	DIODE	EQA02-05A	DL6A1	337P125010	COMB FILTER	ADL-FN2635M-B04
D 802	264P045010	DIODE	1S2076	LC6A0	409P387010	LC FILTER	4. 2MHz
D 803	264P193080	DIODE	MZ309B2/HZ9B24	LF2001	409P476010	LOW PASS FILTER	
D 805	264P045040	DIODE	1S2471	○LPF2A0	409P439030	LOW PASS FILTER	
D 807	264P045040	DIODE	1S2471	LPF2A1	409P466010	LOW PASS FILTER	
D 808	264P045010	DIODE	1S2076	○LPF6A2	409P533040	LOW PASS FILTER	
D 810	264P045040	DIODE	1S2471	SF101	296P086010	SAW FILTER	F52JM
D 811	264P045040	DIODE	1S2471				

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION	SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
○DF2A1	409P480010	DELAY EQUALIZER		L 2001	325C167050	PEAKING	100 μ H-J
○DF2A2	409P477010	DELAY EQUALIZER		L 2002	325C167050	PEAKING	100 μ H-J
DF2001	409P462010	DELAY EQUALIZER		L 2003	325C167050	PEAKING	100 μ H-J
DL6A0	337P091010	DELAY LINE	EFD-BT645B85B	L 2004	325C167010	PEAKING	47 μ H-J
				L 2005	325C165070	PEAKING	3. 3 μ H-J
L 01	325C112050	PEAKING		L 2006	325C166030	PEAKING	10 μ H-J
L 02	325C162050	PEAKING	100 μ H-K	L 2008	325C167050	PEAKING	100 μ H-J
L 06	325C162050	PEAKING	100 μ H-K	L 2009	325C166040	PEAKING	12 μ H-J
L 07	325C162050	PEAKING	100 μ H-K	L 2010	325C167060	PEAKING	120 μ H-J
L 08	325C162050	PEAKING	100 μ H-K	L 2011	325C166080	PEAKING	27 μ H-J
L 09	325C121000	PEAKING	5. 6 μ H-K	L 3A0	321C010040	RF	1000 μ H-J
L 10	325C166010	PEAKING	6. 8 μ H-J	L 3A1	321C011050	RF	8200 μ H-J
L 11	325C165090	PEAKING	4. 7 μ H-J	L 3301	321C011050	RF	8200 μ H-J
○L 12	325C165060	PEAKING	2. 7 μ H-J	L 3302	325C167050	PEAKING	100 μ H-J
L 15	325C162050	PEAKING	100 μ H-K	L 3303	325C167050	PEAKING	100 μ H-J
L 102	323P172010	VIF		L 3304	325C167050	PEAKING	100 μ H-J
L 103	323P111070	VIF	45. 75MHz	L 3A01	321C011050	RF	8200 μ H-J
L 104	325C122050	PEAKING	100 μ H-K	L 3A02	321C011050	RF	8200 μ H-J
L 105	325C122050	PEAKING	100 μ H-K	L 3A03	325C122050	PEAKING	100 μ H-K
L 106	325C124080	PEAKING	0. 56 μ H-M	L 570	299P124010	LATCH MAGNET	
L 107	325C170010	PEAKING	1. 0 μ H-K	L 6A0	325C167050	PEAKING	100 μ H-J
L 109	325C166060	PEAKING	18 μ H-J	L 6A1	325C167050	PEAKING	100 μ H-J
L 110	325C122050	PEAKING	100 μ H-K	L 6A2	325C167040	PEAKING	82 μ H-J
L 111	325C122050	PEAKING	100 μ H-K	L 6A3	325C167030	PEAKING	68 μ H-J
L 114	325C121030	PEAKING	10 μ H-K	L 6A4	325C167050	PEAKING	100 μ H-J
L 150	325C121040	PEAKING	12 μ H-K	L 6A5	325C107010	PEAKING	47 μ H-J
L 152	325C166090	PEAKING	33 μ H-J	L 6A6	325C106030	PEAKING	10 μ H-J
L 2A0	325C167050	PEAKING	100 μ H-J	L 6A7	325C167050	PEAKING	100 μ H-J
L 2A1	325C167050	PEAKING	100 μ H-J	L 6A8	325C166050	PEAKING	15 μ H-J
L 2A2	325C107050	PEAKING	100 μ H-J	L 6A9	325C167050	PEAKING	100 μ H-J
L 2A5	325C167050	PEAKING	100 μ H-J	L 6B0	325C167050	PEAKING	100 μ H-J
L 2A6	325C107050	PEAKING	100 μ H-J	L 6B1	325C167050	PEAKING	100 μ H-J
L 2A7	325C166080	PEAKING	27 μ H-J	L 6B5	325C166050	PEAKING	15 μ H-J
L 2A8	325C167020	PEAKING	56 μ H-J	L 6B6	325C108070	PEAKING	1000 μ H-J
L 2A9	325C166090	PEAKING	33 μ H-J	L 6B7	325C167050	PEAKING	100 μ H-J
L 2B0	325C167090	PEAKING	220 μ H-J	T 3A0	409P423010	AUDIO BIAS OSC	705720044D
L 2B1	325C167020	PEAKING	56 μ H-J	VL6A0	349P166010	DL MATCH	
L 2B2	325C167050	PEAKING	100 μ H-J				
L 2B3	325C167050	PEAKING	100 μ H-J				
L 2B4	325C167050	PEAKING	100 μ H-J				
L 2B5	325C167050	PEAKING	100 μ H-J				
L 2B6	325C167050	PEAKING	100 μ H-J				
L 2B8	325C167050	PEAKING	100 μ H-J				
L 2C2	325C167050	PEAKING	100 μ H-J				
L 2C3	325C166050	PEAKING	15 μ H-J				
L 2C4	325C167050	PEAKING	100 μ H-J				
L 2C5	325C168060	PEAKING	820 μ H-J				
L 2C6	325C167020	PEAKING	56 μ H-J				
L 2C7	325C168000	PEAKING	270 μ H-J				
L 2C8	325C166050	PEAKING	15 μ H-J				
L 2C9	325C167050	PEAKING	100 μ H-J				
L 2D0	325C167050	PEAKING	100 μ H-J				
L 2D1	325C167010	PEAKING	47 μ H-J				
L 2F0	325C167050	PEAKING	100 μ H-J				
L 2S0	325C107050	PEAKING	100 μ H-J				
				○T 901	350P441020	POWER	120V
</							

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION	SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
VR2A5	127C080080	VR-SEMIFIXED	1/5W B10KΩ-M	R 14	103P401050	CHIP RESISITOR	1/10W 150Ω-J
VR2A7	127C080060	VR-SEMIFIXED	1/5W B3KΩ-M	R 15	103P402010	CHIP RESISITOR	1/10W 470Ω-J
VR2A8	127C091000	VR-SEMIFIXED	1/5W B30KΩ-M	R 16	103P402010	CHIP RESISITOR	1/10W 470Ω-J
VR2A9	127C080080	VR-SEMIFIXED	1/5W B10KΩ-M	R 17	103P401030	CHIP RESISITOR	1/10W 100Ω-J
VR2B0	127C090090	VR-SEMIFIXED	1/5W B20KΩ-M	R 18	103P402020	CHIP RESISITOR	1/10W 560Ω-J
VR2B2	127C080090	VR-SEMIFIXED	1/5W B20KΩ-M	R 19	103P403050	CHIP RESISITOR	1/10W 6.8KΩ-J
VR2B4	127C090070	VR-SEMIFIXED	1/5W B5KΩ-M	R 27	103P402070	CHIP RESISITOR	1/10W 1.5KΩ-J
VR2B7	127C080040	VR-SEMIFIXED	1/5W B1KΩ-M	R 28	103P402050	CHIP RESISITOR	1/10W 1KΩ-J
VR2B9	127C080070	VR-SEMIFIXED	1/5W B5KΩ-M	R 50	103P402050	CHIP RESISITOR	1/10W 1KΩ-J
VR2C0	127C080050	VR-SEMIFIXED	1/5W B2KΩ-M	R 51	103P402050	CHIP RESISITOR	1/10W 1KΩ-J
VR2C1	127C080050	VR-SEMIFIXED	1/5W B2KΩ-M	R 52	103P401070	CHIP RESISITOR	1/10W 220Ω-J
VR2001	127C090090	VR-SEMIFIXED	1/5W B20KΩ-M	R 53	103P401070	CHIP RESISITOR	1/10W 220Ω-J
VR2002	127C090030	VR-SEMIFIXED	1/5W B500-M	R 54	103P402040	CHIP RESISITOR	1/10W 820Ω-J
VR2003	127C090040	VR-SEMIFIXED	1/5W B1KΩ-M	R 55	103P402040	CHIP RESISITOR	1/10W 820Ω-J
VR2004	127C090010	VR-SEMIFIXED	1/5W B200-M	R 59	103P401030	CHIP RESISITOR	1/10W 100Ω-J
VR3A0	127C081020	VR-SEMIFIXED	1/5W B100KΩ-M	R 60	103P401030	CHIP RESISITOR	1/10W 100Ω-J
VR3A1	127C080080	VR-SEMIFIXED	1/5W B10KΩ-M	R 61	103P400010	CHIP RESISITOR	1/10W 10Ω-J
VR3301	127C090080	VR-SEMIFIXED	1/5W B10KΩ-M	R 62	103P402050	CHIP RESISITOR	1/10W 1KΩ-J
VR3302	127C090080	VR-SEMIFIXED	1/5W B10KΩ-M	R 63	103P402050	CHIP RESISITOR	1/10W 1KΩ-J
VR3305	127C080090	VR-SEMIFIXED	1/5W B20KΩ-M	R 64	103P400010	CHIP RESISITOR	1/10W 10Ω-J
VR3306	127C080090	VR-SEMIFIXED	1/5W B20KΩ-M	R 65	103P401060	CHIP RESISITOR	1/10W 180Ω-J
VR3307	127C181030	VR-SEMIFIXED	1/5W B200KΩ-M	R 66	103P403000	CHIP RESISITOR	1/10W 2.7KΩ-J
VR3308	127C181030	VR-SEMIFIXED	1/5W B200KΩ-M	R 67	103P400010	CHIP RESISITOR	1/10W 10Ω-J
VR3309	127C180050	VR-SEMIFIXED	1/5W B2KΩ-M	R 68	103P402070	CHIP RESISITOR	1/10W 1.5KΩ-J
VR3A01	127C080080	VR-SEMIFIXED	1/5W B10KΩ-M	R 71	103P401070	CHIP RESISITOR	1/10W 220Ω-J
VR3A02	127C090070	VR-SEMIFIXED	1/5W B5KΩ-M	R 72	103P402050	CHIP RESISITOR	1/10W 1KΩ-J
VR3A03	127C091010	VR-SEMIFIXED	1/5W B50KΩ	R 85	103P402000	CHIP RESISITOR	1/10W 390Ω-J
VR3A04	127C091010	VR-SEMIFIXED	1/5W B50KΩ	R 86	103P401000	CHIP RESISITOR	1/10W 56Ω-J
VR3A05	127C080070	VR-SEMIFIXED	1/5W B5KΩ-M	R 87	103P402030	CHIP RESISITOR	1/10W 680Ω-J
VR4A0	127C181020	VR-SEMIFIXED	1/5W B100KΩ-M	R 88	103P401030	CHIP RESISITOR	1/10W 100Ω-J
VR5001	129D132050	VR-PCB	1/20W B100KΩ-15F STILL ADJ.	R 89	103P403000	CHIP RESISITOR	1/10W 2.7KΩ-J
○VR5002	129C126030	VR-PCB	1/40W A2KΩ (PAIR) HP-LEVEL	R 92	103P403060	CHIP RESISITOR	1/10W 8.2KΩ-J
○VR5003	129C135040	VR-SLIDE	1/20W C5KΩ (PAIR) HiFi-REC-L.	R 93	103P403010	CHIP RESISITOR	1/10W 3.3KΩ-J
VR6A0	127C080020	VR-SEMIFIXED	1/10W B300Ω-M	R 101	103P401030	CHIP RESISITOR	1/10W 100Ω-J
				R 102	103P403030	CHIP RESISITOR	1/10W 4.7KΩ-J
J 02	103P359050	CHIP RESISITOR	1/8W 0Ω	R 104	103P402070	CHIP RESISITOR	1/10W 1.5KΩ-J
J 03	103P359050	CHIP RESISITOR	1/8W 0Ω	R 105	103P402070	CHIP RESISITOR	1/10W 1.5KΩ-J
J 05	103P359050	CHIP RESISITOR	1/8W 0Ω	R 106	103P403080	CHIP RESISITOR	1/10W 12KΩ-J
J 07	103P409050	CHIP RESISITOR	1/10W 0Ω	R 107	103P402010	CHIP RESISITOR	1/10W 470Ω-J
J 12	103P359050	CHIP RESISITOR	1/8W 0Ω	R 111	103P403040	CHIP RESISITOR	1/10W 5.6KΩ-J
J 13	103P409050	CHIP RESISITOR	1/10W 0Ω	R 112	103P402050	CHIP RESISITOR	1/10W 1KΩ-J
J 15	103P359050	CHIP RESISITOR	1/8W 0Ω	R 113	103P401070	CHIP RESISITOR	1/10W 220Ω-J
J 16	103P359050	CHIP RESISITOR	1/8W 0Ω	R 115	103P402050	CHIP RESISITOR	1/10W 1KΩ-J
J 18	103P409050	CHIP RESISITOR	1/10W 0Ω	R 116	103P402090	CHIP RESISITOR	1/10W 2.2KΩ-J
J 21	103P409050	CHIP RESISITOR	1/10W 0Ω	R 117	103P402050	CHIP RESISITOR	1/10W 1KΩ-J
J 23	103P409050	CHIP RESISITOR	1/10W 0Ω	R 118	103P403000	CHIP RESISITOR	1/10W 2.7KΩ-J
○R 01	103P472010	CHIP RESISITOR	1/10W 680Ω-F	R 119	103P402080	CHIP RESISITOR	1/10W 1.8KΩ-J
○R 02	103P472030	CHIP RESISITOR	1/10W 820Ω-F	R 120	103P402050	CHIP RESISITOR	1/10W 1KΩ-J
○R 03	103P472030	CHIP RESISITOR	1/10W 820Ω-F	R 121	103P402040	CHIP RESISITOR	1/10W 820Ω-J
○R 04	103P472030	CHIP RESISITOR	1/10W 820Ω-F	R 122	103P401090	CHIP RESISITOR	1/10W 330Ω-J
R 09	103P402070	CHIP RESISITOR	1/10W 1.5KΩ-J	R 123	103P401030	CHIP RESISITOR	1/10W 100Ω-J
R 10	103P405070	CHIP RESISITOR	1/10W 470KΩ-J	R 124	103P403020	CHIP RESISITOR	1/10W 3.9K-H
R 11	103P405000	CHIP RESISITOR	1/10W 120KΩ-J	R 125	103P403060	CHIP RESISITOR	1/10W 8.2KΩ-J
R 12	103P400010	CHIP RESISITOR	1/10W 10Ω-J	R 126	103P405010	CHIP RESISITOR	1/10W 150KΩ-J
R 13	103P401030	CHIP RESISITOR	1/10W 100Ω-J	R 127	103P405010	CHIP RESISITOR	1/10W 150KΩ-J

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION	SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
R 128	103P352070	CHIP RESISITOR	1/8W 1.5KΩ-J	R 3305	103P405020	CHIP RESISITOR	1/10W 180KΩ-J
R 151	103P405030	CHIP RESISITOR	1/10W 220KΩ-J	R 3306	103P405020	CHIP RESISITOR	1/10W 180KΩ-J
R 152	103P402070	CHIP RESISITOR	1/10W 1.5KΩ-J	R 3307	103P405020	CHIP RESISITOR	1/10W 180KΩ-J
R 153	103P401080	CHIP RESISITOR	1/10W 270Ω-J	R 3308	103P405020	CHIP RESISITOR	1/10W 180KΩ-J
R 2013	103P404050	CHIP RESISITOR	1/10W 47KΩ-J	OR 3309	103P401010	CHIP RESISITOR	1/10W 68Ω-J
R 2014	103P404040	CHIP RESISITOR	1/10W 39KΩ-J	OR 3310	103P401010	CHIP RESISITOR	1/10W 68Ω-J
R 2015	103P402050	CHIP RESISITOR	1/10W 1KΩ-J	R 3311	103P403070	CHIP RESISITOR	1/10W 10KΩ-J
R 2016	103P402020	CHIP RESISITOR	1/10W 560Ω-J	R 3312	103P403070	CHIP RESISITOR	1/10W 10KΩ-J
R 2017	103P402080	CHIP RESISITOR	1/10W 1.8KΩ-J	R 3313	103P404010	CHIP RESISITOR	1/10W 22KΩ-J
R 2018	103P402050	CHIP RESISITOR	1/10W 1KΩ-J	R 3314	103P404010	CHIP RESISITOR	1/10W 22KΩ-J
R 2019	103P402050	CHIP RESISITOR	1/10W 1KΩ-J	R 3315	103P401030	CHIP RESISITOR	1/10W 100Ω-J
R 2020	103P405020	CHIP RESISITOR	1/10W 180KΩ-J	R 3316	103P401030	CHIP RESISITOR	1/10W 100Ω-J
R 2021	103P404010	CHIP RESISITOR	1/10W 22KΩ-J	R 3317	103P403070	CHIP RESISITOR	1/10W 10KΩ-J
R 2022	103P401080	CHIP RESISITOR	1/10W 270Ω-J	R 3318	103P403070	CHIP RESISITOR	1/10W 10KΩ-J
R 2023	103P401040	CHIP RESISITOR	1/10W 120Ω-J	R 3319	103P405020	CHIP RESISITOR	1/10W 180KΩ-J
R 2024	103P402010	CHIP RESISITOR	1/10W 470Ω-J	R 3320	103P403040	CHIP RESISITOR	1/10W 5.6KΩ-J
R 2025	103P402010	CHIP RESISITOR	1/10W 470Ω-J	R 3321	103P403040	CHIP RESISITOR	1/10W 5.6KΩ-J
R 2026	103P402060	CHIP RESISITOR	1/10W 1.2KΩ-J	R 3322	103P404010	CHIP RESISITOR	1/10W 22KΩ-J
R 2027	103P402090	CHIP RESISITOR	1/10W 2.2KΩ-J	R 3323	103P404010	CHIP RESISITOR	1/10W 22KΩ-J
R 2028	103P403050	CHIP RESISITOR	1/10W 6.8KΩ-J	R 3324	103P402070	CHIP RESISITOR	1/10W 1.5KΩ-J
R 2029	103P403070	CHIP RESISITOR	1/10W 10KΩ-J	R 3329	103P403070	CHIP RESISITOR	1/10W 10KΩ-J
R 2030	103P403030	CHIP RESISITOR	1/10W 4.7KΩ-J	R 3330	103P403070	CHIP RESISITOR	1/10W 10KΩ-J
R 2031	103P402070	CHIP RESISITOR	1/10W 1.5KΩ-J	R 3332	103P402060	CHIP RESISITOR	1/10W 1.2KΩ-J
R 2032	103P402040	CHIP RESISITOR	1/10W 820Ω-J	R 3333	103P404050	CHIP RESISITOR	1/10W 47KΩ-J
R 2033	103P402000	CHIP RESISITOR	1/10W 390Ω-J	R 3334	103P404050	CHIP RESISITOR	1/10W 47KΩ-J
R 2034	103P406010	CHIP RESISITOR	1/10W 1MΩ-J	R 3335	103P405020	CHIP RESISITOR	1/10W 180KΩ-J
R 2035	103P402010	CHIP RESISITOR	1/10W 470Ω-J	R 3342	103P403090	CHIP RESISITOR	1/10W 15KΩ-J
R 2036	103P402020	CHIP RESISITOR	1/10W 560Ω-J	R 3343	103P404030	CHIP RESISITOR	1/10W 33KΩ-J
R 2037	103P402020	CHIP RESISITOR	1/10W 560Ω-J	R 3344	103P404030	CHIP RESISITOR	1/10W 33KΩ-J
R 2038	103P402050	CHIP RESISITOR	1/10W 1KΩ-J	R 3351	103P402040	CHIP RESISITOR	1/10W 820Ω-J
R 2039	103P403070	CHIP RESISITOR	1/10W 10KΩ-J	R 3352	103P402040	CHIP RESISITOR	1/10W 820Ω-J
R 2040	103P404040	CHIP RESISITOR	1/10W 39KΩ-J	R 3353	103P402040	CHIP RESISITOR	1/10W 820Ω-J
R 2051	103P401030	CHIP RESISITOR	1/10W 100Ω-J	R 3354	103P402040	CHIP RESISITOR	1/10W 820Ω-J
R 3A0	103P404000	CHIP RESISITOR	1/10W 18KΩ-J	R 3355	103P402030	CHIP RESISITOR	1/10W 680Ω-J
R 3A4	103P401060	CHIP RESISITOR	1/10W 180Ω-J	R 3356	103P402030	CHIP RESISITOR	1/10W 680Ω-J
R 3A5	103P402080	CHIP RESISITOR	1/10W 1.8KΩ-J	OR 3361	103P472060	CHIP RESISITOR	1/10W 1.1KΩ-F
R 3A6	103P403060	CHIP RESISITOR	1/10W 8.2KΩ-J	OR 3362	103P472060	CHIP RESISITOR	1/10W 1.1KΩ-F
R 3A7	103P401080	CHIP RESISITOR	1/10W 270Ω-J	OR 3363	103P474090	CHIP RESISITOR	1/10W 10KΩ-F
R 3B0	103P401030	CHIP RESISITOR	1/10W 100Ω-J	OR 3364	103P474090	CHIP RESISITOR	1/10W 10KΩ-F
R 3B1	103P403030	CHIP RESISITOR	1/10W 4.7KΩ-J	OR 3365	103P475050	CHIP RESISITOR	1/10W 18KΩ-F
R 3B4	103P406010	CHIP RESISITOR	1/10W 1MΩ-J	OR 3366	103P475050	CHIP RESISITOR	1/10W 18KΩ-F
R 3B5	103P403070	CHIP RESISITOR	1/10W 10KΩ-J	OR 3367	103P474030	CHIP RESISITOR	1/10W 5.6KΩ-F
R 3B6	103P404010	CHIP RESISITOR	1/10W 22KΩ-J	OR 3368	103P474030	CHIP RESISITOR	1/10W 5.6KΩ-F
R 3B7	103P403070	CHIP RESISITOR	1/10W 10KΩ-J	OR 3369	103P476010	CHIP RESISITOR	1/10W 33KΩ-F
R 3C9	103P403090	CHIP RESISITOR	1/10W 15KΩ-J	OR 3370	103P476010	CHIP RESISITOR	1/10W 33KΩ-F
R 3D0	103P403010	CHIP RESISITOR	1/10W 3.3KΩ-J	OR 3371	103P474090	CHIP RESISITOR	1/10W 10KΩ-F
R 3D1	103P402010	CHIP RESISITOR	1/10W 470Ω-J	OR 3372	103P474090	CHIP RESISITOR	1/10W 10KΩ-F
R 3D2	103P404020	CHIP RESISITOR	1/10W 27KΩ-J	OR 3373	103P473080	CHIP RESISITOR	1/10W 3.6KΩ-F
R 3E4	103P404050	CHIP RESISITOR	1/10W 47KΩ-J	R 3374	103P402060	CHIP RESISITOR	1/10W 1.2KΩ-J
R 3E6	103P406010	CHIP RESISITOR	1/10W 1MΩ-J	R 3375	103P402050	CHIP RESISITOR	1/10W 1KΩ-J
R 3E7	103P404090	CHIP RESISITOR	1/10W 100KΩ-J	R 3376	103P402050	CHIP RESISITOR	1/10W 1KΩ-J
R 3301	103P402050	CHIP RESISITOR	1/10W 1KΩ-J	R 3378	103P403040	CHIP RESISITOR	1/10W 5.6KΩ-J
R 3302	103P402050	CHIP RESISITOR	1/10W 1KΩ-J	R 3379	103P402070	CHIP RESISITOR	1/10W 1.5KΩ-J
R 3303	103P404070	CHIP RESISITOR	1/10W 68KΩ-J	R 3381	103P403080	CHIP RESISITOR	1/10W 12KΩ-J
R 3304	103P404070	CHIP RESISITOR	1/10W 68KΩ-J	R 3382	103P405050	CHIP RESISITOR	1/10W 330KΩ-J

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION	SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
R 3384	103P403080	CHIP RESISITOR	1/10W 12K $\Omega$ -J	○C 24	154P320090	CHIP CAPACITOR	SL50V 7PF-C
R 3385	103P403030	CHIP RESISITOR	1/10W 4.7K $\Omega$ -J	○C 25	154P320090	CHIP CAPACITOR	SL50V 7PF-C
R 3389	103P404090	CHIP RESISITOR	1/10W 100K $\Omega$ -J	C 26	154P321020	CHIP CAPACITOR	SL50V 10PF-C
R 3390	103P404090	CHIP RESISITOR	1/10W 100K $\Omega$ -J	C 27	141P130090	CHIP CAPACITOR	B50V 1000PF-K
R 3429	103P402070	CHIP RESISITOR	1/10W 1.5K $\Omega$ -J	C 28	141P133080	CHIP CAPACITOR	F50V 0.01 $\mu$ F-Z
R 3430	103P402070	CHIP RESISITOR	1/10W 1.5K $\Omega$ -J	C 29	141P133080	CHIP CAPACITOR	F50V 0.01 $\mu$ F-Z
R 3453	103P406000	CHIP RESISITOR	1/10W 820K	C 53	141P135080	CHIP CAPACITOR	F25V 0.1 $\mu$ F-Z
R 3454	103P406000	CHIP RESISITOR	1/10W 820K	C 54	141P135080	CHIP CAPACITOR	F25V 0.1 $\mu$ F-Z
R 3455	103P403070	CHIP RESISITOR	1/10W 10K $\Omega$ -J	C 55	141P135080	CHIP CAPACITOR	F25V 0.1 $\mu$ F-Z
R 3A01	103P402020	CHIP RESISITOR	1/10W 560 $\Omega$ -J	C 56	141P135080	CHIP CAPACITOR	F25V 0.1 $\mu$ F-Z
R 3A02	103P403010	CHIP RESISITOR	1/10W 3.3K $\Omega$ -J	C 57	141P135080	CHIP CAPACITOR	F25V 0.1 $\mu$ F-Z
○R 3A03	103P474090	CHIP RESISITOR	1/10W 10K $\Omega$ -F	C 58	141P135080	CHIP CAPACITOR	F25V 0.1 $\mu$ F-Z
R 3A04	103P402040	CHIP RESISITOR	1/10W 820 $\Omega$ -J	C 59	154P324060	CHIP CAPACITOR	SL50V 270PF-J
○R 3A05	103P473040	CHIP RESISITOR	1/10W 2.4K $\Omega$ -F	C 60	141P134010	CHIP CAPACITOR	F50V 0.047 $\mu$ F
R 3A06	103P402090	CHIP RESISITOR	1/10W 2.2K $\Omega$ -J	C 61	154P324060	CHIP CAPACITOR	SL50V 270PF-J
R 3A07	103P405090	CHIP RESISITOR	1/10W 680K $\Omega$ -J	C 62	141P134010	CHIP CAPACITOR	F50V 0.047 $\mu$ F
○R 3A08	103P477060	CHIP RESISITOR	1/10W 130K $\Omega$ -F	C 63	141P134010	CHIP CAPACITOR	F50V 0.047 $\mu$ F
R 3A09	103P477030	CHIP RESISITOR	1/10W 100K $\Omega$ -F	C 64	141P135080	CHIP CAPACITOR	F25V 0.1 $\mu$ F-Z
R 3A10	103P477030	CHIP RESISITOR	1/10W 100K $\Omega$ -F	C 65	141P135080	CHIP CAPACITOR	F25V 0.1 $\mu$ F-Z
○R 3A11	103P471020	CHIP RESISITOR	1/10W 300 $\Omega$ -F	C 66	141P135080	CHIP CAPACITOR	F25V 0.1 $\mu$ F-Z
○R 3A12	103P474060	CHIP RESISITOR	1/10W 7.5K $\Omega$ -F	C 68	141P134010	CHIP CAPACITOR	F50V 0.047M
R 3A13	103P403050	CHIP RESISITOR	1/10W 6.8K $\Omega$ -J	C 70	141P133080	CHIP CAPACITOR	F50V 0.01 $\mu$ F-Z
○R 3A14	103P471040	CHIP RESISITOR	1/10W 360 $\Omega$ -F	C 71	141P133080	CHIP CAPACITOR	F50V 0.01 $\mu$ F-Z
R 3A15	103P404040	CHIP RESISITOR	1/10W 39K $\Omega$ -J	C 74	141P133080	CHIP CAPACITOR	F50V 0.01 $\mu$ F-Z
○R 3A16	103P473040	CHIP RESISITOR	1/10W 2.4K $\Omega$ -F	C 75	141P131020	CHIP CAPACITOR	B50V 1800PF-K
○R 3A17	103P475070	CHIP RESISITOR	1/10W 22K $\Omega$ -F	C 76	141P133080	CHIP CAPACITOR	F50V 0.01 $\mu$ F-Z
○R 3A18	103P479010	CHIP RESISITOR	1/10W 560K $\Omega$ -F	C 82	141P133080	CHIP CAPACITOR	F50V 0.01 $\mu$ F-Z
R 3A19	103P401030	CHIP RESISITOR	1/10W 100 $\Omega$ -J	C 84	141P133080	CHIP CAPACITOR	F50V 0.01 $\mu$ F-Z
R 3A20	103P402060	CHIP RESISITOR	1/10W 1.2K $\Omega$ -J	C 86	141P135080	CHIP CAPACITOR	F25V 0.1 $\mu$ F-Z
R 3A22	103P405040	CHIP RESISITOR	1/10W 270K $\Omega$ -J	C 87	141P135080	CHIP CAPACITOR	F25V 0.1 $\mu$ F-Z
R 3A23	103P403000	CHIP RESISITOR	1/10W 2.7K $\Omega$ -J	C 101	141P133080	CHIP CAPACITOR	F50V 0.01 $\mu$ F-Z
R 3A28	103P401080	CHIP RESISITOR	1/10W 270 $\Omega$ -J	C 106	141P133080	CHIP CAPACITOR	F50V 0.01 $\mu$ F-Z
R 3A29	103P402080	CHIP RESISITOR	1/10W 1.8K $\Omega$ -J	C 108	141P133080	CHIP CAPACITOR	F50V 0.01 $\mu$ F-Z
R 3A30	103P405040	CHIP RESISITOR	1/10W 270K $\Omega$ -J	C 110	141P133080	CHIP CAPACITOR	F50V 0.01 $\mu$ F-Z
R 3A31	103P402090	CHIP RESISITOR	1/10W 2.2K $\Omega$ -J	C 112	154P333030	CHIP CAPACITOR	CH50V 82PF-J
R 5A6	103P544090	NETWORK	1/8W 100K $\Omega$ -JX4	C 119	141P133080	CHIP CAPACITOR	F50V 0.01 $\mu$ F-Z
○R 806	103P554030	NETWORK	1/8W 33K $\Omega$ -JX5	C 121	154P331010	CHIP CAPACITOR	CH50V 10PF-C
R 902	109P052050	FUSE	1/4W 6.8 $\Omega$ -J	○C 122	154P323020	CHIP CAPACITOR	SL50V 68PF-J
R 903	103P370070	FUSE	1/4W 33 $\Omega$ -J	C 123	141P133080	CHIP CAPACITOR	F50V 0.01 $\mu$ F-Z
				C 152	141P133080	CHIP CAPACITOR	F50V 0.01 $\mu$ F-Z
C 01	141P136030	CHIP CAPACITOR	F16V 1 $\mu$ F-Z	C 153	154P332070	CHIP CAPACITOR	CH50V 47PF-J
C 02	141P136030	CHIP CAPACITOR	F16V 1 $\mu$ F-Z	○C 154	154P323000	CHIP CAPACITOR	SL50V 56PF-J
C 03	141P136030	CHIP CAPACITOR	F16V 1 $\mu$ F-Z	C 2021	154P322080	CHIP CAPACITOR	SL50V 47PF-J
C 04	141P136030	CHIP CAPACITOR	F16V 1 $\mu$ F-Z	C 2023	141P133080	CHIP CAPACITOR	F50V 0.01 $\mu$ F-Z
C 05	141P136030	CHIP CAPACITOR	F16V 1 $\mu$ F-Z	C 2035	141P133080	CHIP CAPACITOR	F50V 0.01 $\mu$ F-Z
C 06	141P136030	CHIP CAPACITOR	F16V 1 $\mu$ F-Z	C 2039	154P322080	CHIP CAPACITOR	SL50V 47PF-J
C 07	141P136030	CHIP CAPACITOR	F16V 1 $\mu$ F-Z	○C 2040	154P321060	CHIP CAPACITOR	SL50V 15PF-J
C 08	141P136030	CHIP CAPACITOR	F16V 1 $\mu$ F-Z	○C 2041	154P323000	CHIP CAPACITOR	SL50V 56PF-J
C 10	141P133080	CHIP CAPACITOR	F50V 0.01 $\mu$ F-Z	C 2042	141P133080	CHIP CAPACITOR	F50V 0.01 $\mu$ F-Z
C 12	141P133080	CHIP CAPACITOR	F50V 0.01 $\mu$ F-Z	○C 2043	154P333030	CHIP CAPACITOR	CH50V 82PF-J
C 14	141P134010	CHIP CAPACITOR	F50V 0.047 $\mu$ F	C 3A1	141P133080	CHIP CAPACITOR	F50V 0.01 $\mu$ F-Z
C 15	141P134010	CHIP CAPACITOR	F50V 0.047 $\mu$ F	C 3A2	141P130090	CHIP CAPACITOR	B50V 1000PF-K
C 16	141P136030	CHIP CAPACITOR	F16V 1 $\mu$ F-Z	C 3A8	141P130080	CHIP CAPACITOR	B50V 820PF-K
C 22	141P130090	CHIP CAPACITOR	B50V 1000PF-K	C 3D3	141P133080	CHIP CAPACITOR	F50V 0.01 $\mu$ F-Z
C 23	154P321020	CHIP CAPACITOR	SL50V 10PF-C	C 3301	141P132020	CHIP CAPACITOR	B50V 0.012 $\mu$ F-K

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
C 3383	141P133080	CHIP CAPACITOR	F50V 0.01 μ F-Z
C 3384	141P133080	CHIP CAPACITOR	F50V 0.01 μ F-Z
C 3385	141P133080	CHIP CAPACITOR	F50V 0.01 μ F-Z
C 3386	141P133080	CHIP CAPACITOR	F50V 0.01 μ F-Z
C 3394	141P133080	CHIP CAPACITOR	F50V 0.01 μ F-Z
○C 3398	141P130030	CHIP CAPACITOR	B50V 330PF-K
C 3403	141P133080	CHIP CAPACITOR	F50V 0.01 μ F-Z
C 3406	141P133080	CHIP CAPACITOR	F50V 0.01 μ F-Z
○C 3407	154P326000	CHIP CAPACITOR	SL50V 1000PF
○C 3408	154P326000	CHIP CAPACITOR	SL50V 1000PF
○C 3409	154P326000	CHIP CAPACITOR	SL50V 1000PF
○C 3410	154P326000	CHIP CAPACITOR	SL50V 1000PF
C 3A12	141P133090	CHIP CAPACITOR	F50V 0.022 μ F
C 3A27	141P131080	CHIP CAPACITOR	B50V 5600PF-K
○C 3A29	141P132080	CHIP CAPACITOR	B50V 0.039 μ F-K
C 5D1	189P092010	ELECTROLYTIC-C	FU5. 5V 0.047F-Z
C 917	185D055010	ELECTROLYTIC-C	H25V 6800 μ F
VC2A0	202P109030	TRIMMER CAPACITOR	5. 5PF-30PF
VC2001	202P109040	TRIMMER CAPACITOR	6. 8PF-45PF
VC801	202P109020	TRIMMER CAPACITOR	4. 2PF-20PF
S 5002	432P100040	KEY BOARD SWITCH	POWER
S 5003	432P100040	KEY BOARD SWITCH	EJECT
S 5006	431C099010	SLIDE SWITCH	S-DETAIL
S 801	431C099010	SLIDE SWITCH	T-160/NORMAL (REMAIN)
S 803	431C099010	SLIDE SWITCH	REMOTE CONT. VCR A/B
SW570	439P019010	MODE SELECT SWITCH	
SW571	439P020010	LIMIT SWITCH	
○SW572	439P020020	LIMIT SWITCH	
○	242D297070	IF CABLE	
○CU2A0	295P086010	CONVERTER SW	MDLK5A103X
F 901	283D038090	FUSE	S1. 25A
F 902	283D038040	FUSE	1. 6A
○J 2A0	451C096030	PIN JACK	BLK
J 2A1	451C096040	PIN JACK	RED
J 2A2	451C096010	PIN JACK	WHT
○J 2A3	451C086040	PIN JACK	YEL
○J 2A5	451C086040	PIN JACK	YEL
○J 2A6	451C086010	PIN JACK	RED
○J 2A6	449C095010	SOCKET DIN MINI	4P
○J 2A7	451C086010	PIN JACK	RED
○J 2A7	449C090010	SOCKET DIN MINI	4P
○J 2A8	451C086090	PIN JACK	
○J 2A9	451C086090	PIN JACK	
○J 5001	451C106010	HEADPHONE JACK	
○M 470	288P093010	CAPSTAN MOTOR	
M 570	288P088010	DRUM MOTOR	
M 571	288D025010	LOADING MOTOR	
T 370	460P092010	AC HEAD	
○T 371	460P055030	FE HEAD	
TU 01	295P263010	TUNER	
V 801	253P065030	TUBE FLUOR	
X 2A0	285P076010	CRYSTAL RESONATOR	

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
X 2001	285P069020	CRYSTAL RESONATOR	
X 6A0	285P072010	CRYSTAL RESONATOR	HC-49/U(3. 579545MHz)
X 801	285P063040	CRYSTAL RESONATOR	4. 194304MHz
X 802	285P054010	CRYSTAL RESONATOR	32. 768KHz
Z 801	939P241010	PREAMP UNIT	PHOTO-RECEPTOR
DC CC	243C061020	CARD LEAD	9P
○DM CM	243C061040	CARD LEAD	23P
CS PS	243C049060	CARD LEAD	7P
○CQ MQ	243C063010	CARD LEAD	23P
○CF MF	243C063020	CARD LEAD	15P
○CJ AJ	243C063040	CARD LEAD	19P
○CE SE	243C063050	CARD LEAD	9P
○CR SR	243C063050	CARD LEAD	9P
○CK SK	243C063060	CARD LEAD	21P
○CD TD	243C063070	CARD LEAD	15P
○SG AG	243C063090	CARD LEAD	11P
○	928B768010	CONTROL PCB ASSY	
○	928C510020	DECK PCB ASSY	
○	928B766020	HEAD-AMP PCB ASSY	
○	928B762020	HI-FI PCB ASSY	
○	928B794010	OPE PCB ASSY	
○	928B763020	POWER PCB ASSY	
○	928C545040	REG PCB ASSY	
○	928B760020	SIGNAL PCB ASSY	
○	928C544020	TERMINAL PCB ASSY	
○	928B764020	TIMER PCB ASSY	
○	928B770010	TUNER PCB ASSY	

## CHIP PARTS REPLACEMENT

Some resistors, shorting jumpers ( $0\Omega$  resistor), ceramic capacitors, transistors and diodes are chip parts which are used for certain circuit elements. When replacing these parts, note the cautions as follows.

### Cautions:

- Use fine tipped, well insulated soldering pencil (iron) about 30 watts and the tweezers.
- Melting the solder, remove the Chip Parts carefully not to tear off the copper foil of the printed circuit board.
- Discard removed chips; do not reuse them.
- Do not apply heat for more than 3 seconds to the new chip Parts.
- Avoid using a rubbing stroke when soldering.
- Take care not to scratch when soldering, or damage the Chip Parts.
- Supplementary cementing is not required.

### 1 Removal of chip Parts

#### (Resistors, capacitors, etc.)

- Grasp the part with tweezers. Melting the solder at both side alternately, remove the one side of the part with a twisting motion.
- Melt the solder at the other side and remove the part.

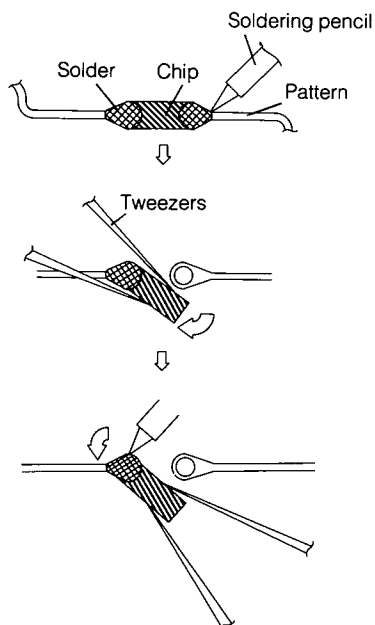


Fig. 1

### 2 Removal of Chip Parts (Transistors)

- Melting the solder of one lead, Lift the side of that lead upward.
- Simultaneously melt the solder of the two remaining leads and lift the part to remove.

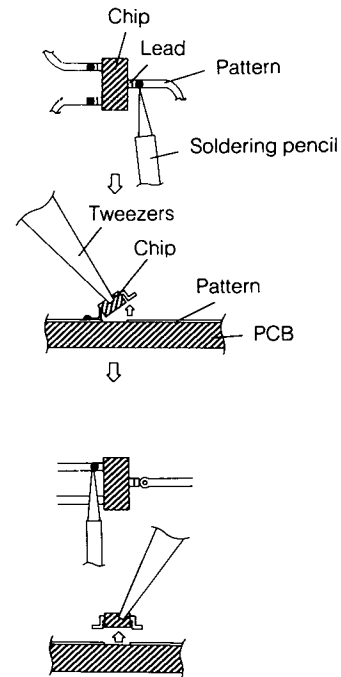


Fig. 2

### 3 Replacement

- Presolder the contact points of the circuit pattern.
- Press the part downward with tweezers and apply the soldering pencil as shown in the figure.

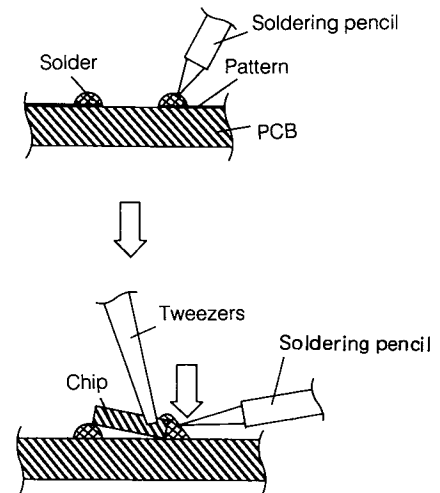


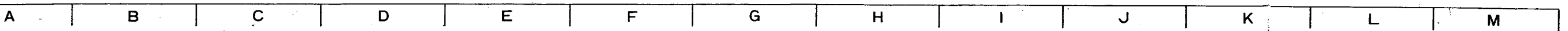
Fig. 3



MEMO

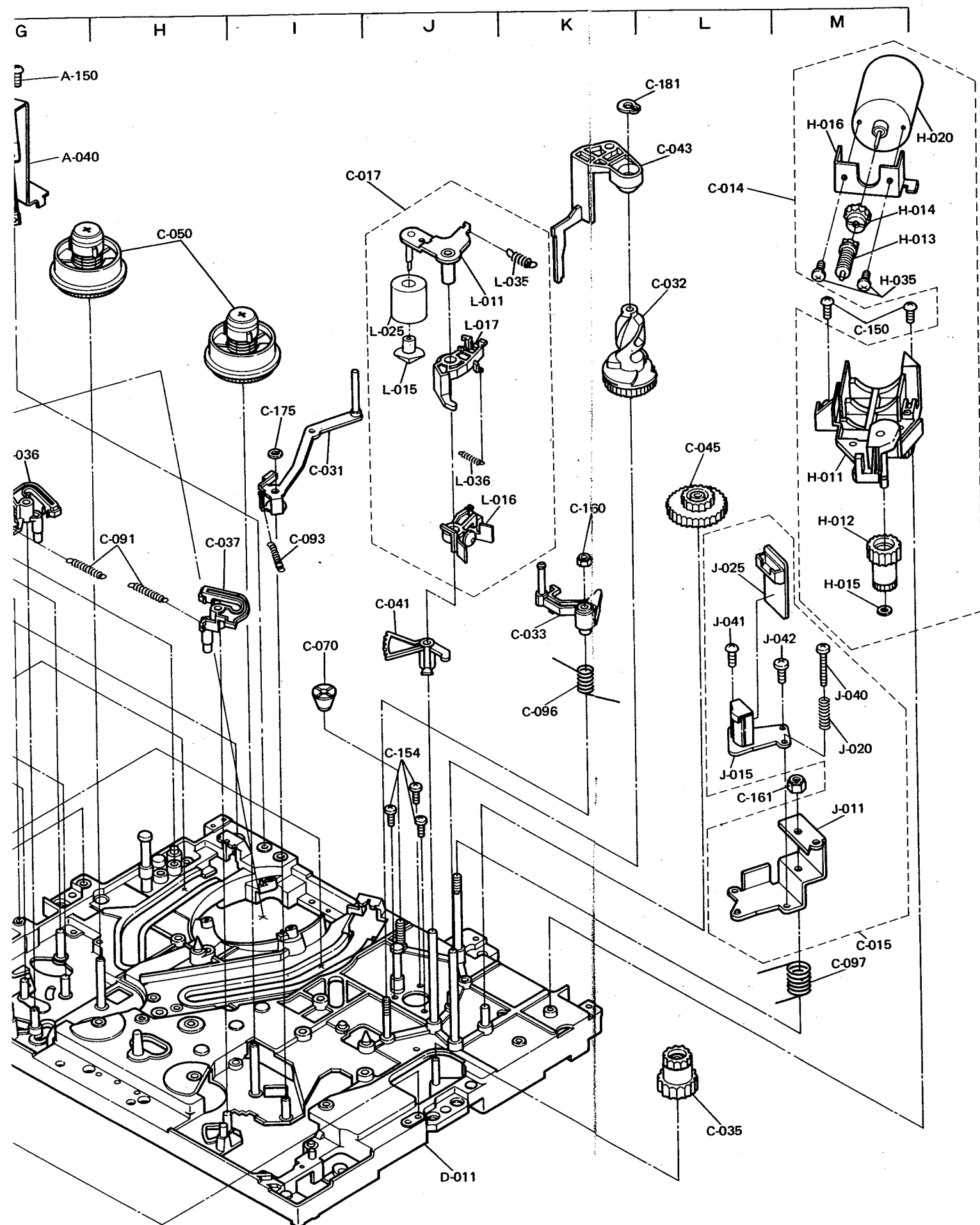
MEMO

A vertical scale with numbers 1 through 9. Each number is positioned to the right of a horizontal tick mark that extends from a central vertical line.



TEM

A-040	
A-150	
3-015	
4-010	
4-030	
0-011	
0-012	
0-012	
0-012	
0-011	
0-011	
0-011	
0-016	
0-021	
0-013	
0-013	
0-013	
0-011	
0-011	
0-016	
0-021	
0-036	
0-014	
0-011	
0-012	
0-013	
0-014	
0-015	
0-016	
0-020	
0-035	
0-015	
0-011	
0-015	
0-020	
0-025	
0-040	
0-041	
0-042	
0-016	
0-011	
0-015	
0-017	
0-011	
0-015	
0-016	
0-017	
0-025	
0-035	
0-036	

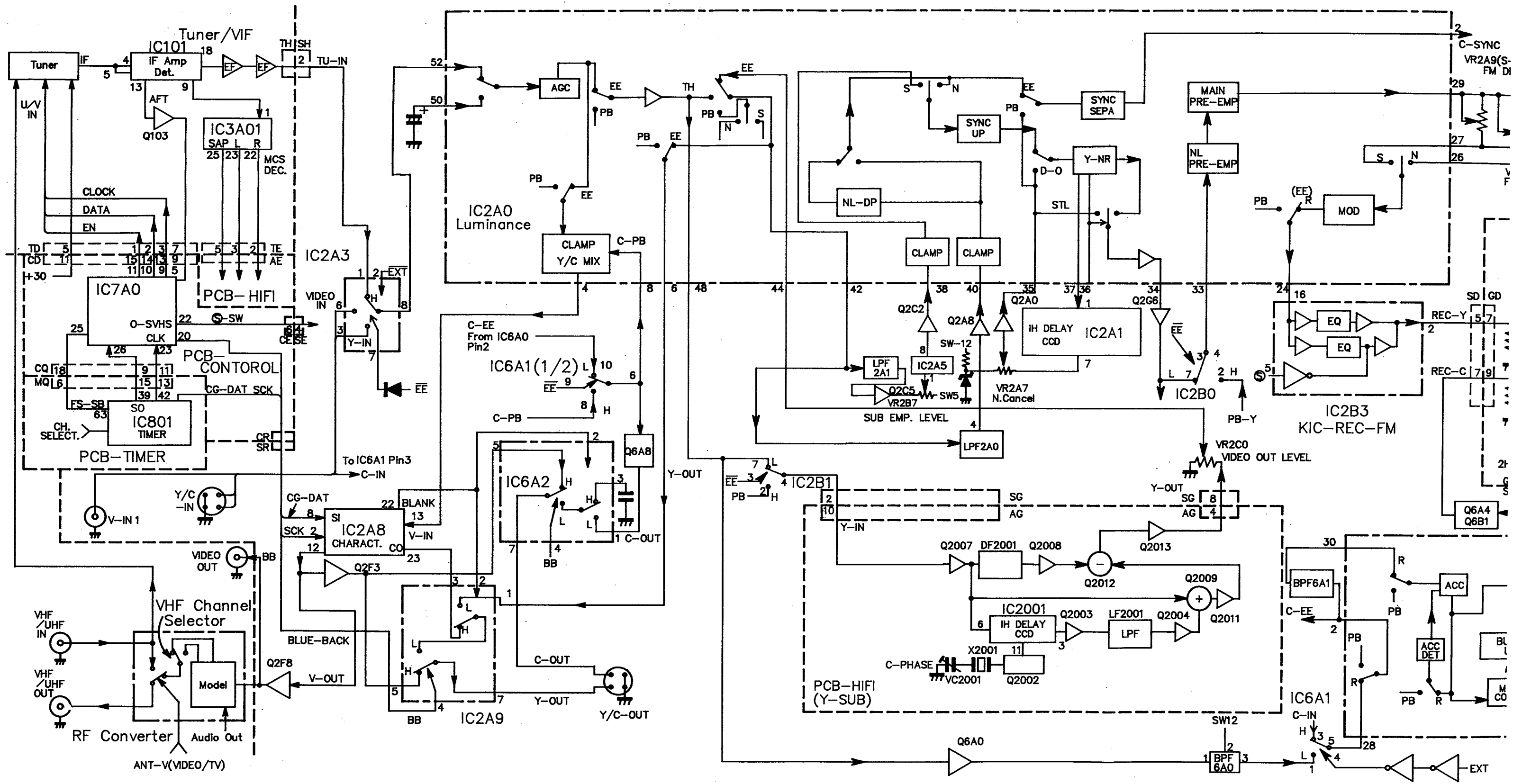


# \* Settled Service Parts

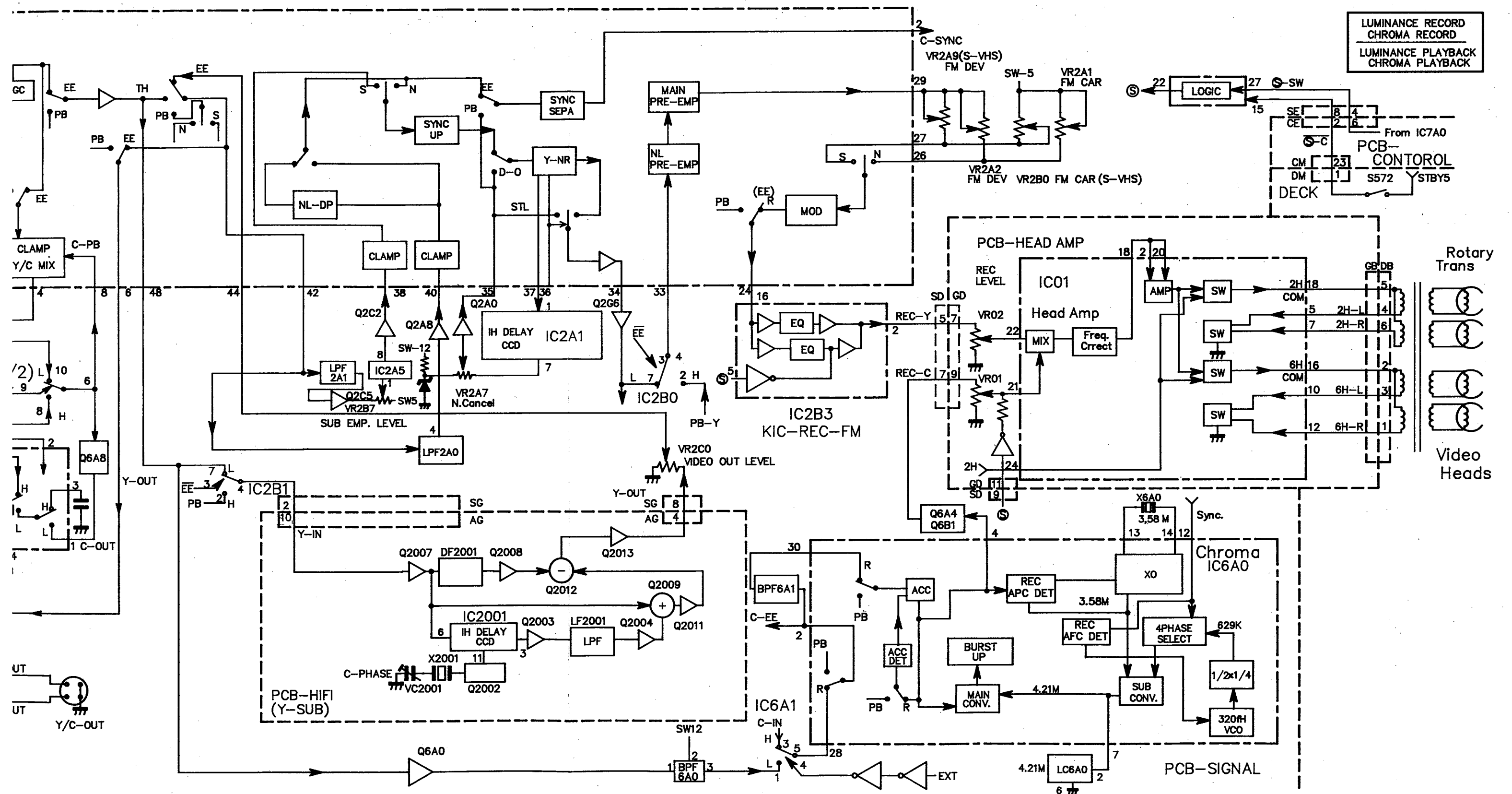
ITEM	PARTS No.	*	ADDRESS	PARTS NAME	DESCRIPTION	Qt.	
A-040	299C025010	○	G-1	BRUSH	M2. 6X6	01	
A-150	669D227010	○	G-1	SCREW-TS		01	
B-015	948B207020	○	B-2	ASSY-DRUM	M570	01	
M-010	928B650080	○	B-3	ASSY-UPPER-DRUM		01	
M-030	288P088010	○	C-3	MOTOR-DRUM		01	
D-011	948A071010		J-9	ASSY-MAIN-PLATE		01	
D-012	948D018010	○	E-6	ASSY-TAPE-GUIDE-S		01	
D-012	948D018020	○	E-6	ASSY-TAPE-GUIDE-S		01	
D-012	948D018030	○	E-6	ASSY-TAPE-GUIDE-S		01	
E-011	635B059010	○	E-6	TAPE-GUIDE-S		01	
E-011	635B059020	○	E-6	TAPE-GUIDE-S		01	
E-011	635B059030	○	E-6	TAPE-GUIDE-S		01	
E-016	522B031010	○	E-6	GUIDE-ROLLER	M3X0. 5-4	01	
E-021	669D197020		F-6	SET-SCREW-F		01	
D-013	948D019010	○	F-6	ASSY-TAPE-GUIDE-T	M3X0. 5-4	01	
D-013	948D019020	○	F-6	ASSY-TAPE-GUIDE-T		01	
D-013	948D019030	○	F-6	ASSY-TAPE-GUIDE-T		01	
F-011	635B060010	○	F-6	TAPE-GUIDE-T		01	
F-011	635B060020	○	F-6	TAPE-GUIDE-T		01	
F-011	635B060030	○	F-6	TAPE-GUIDE-T		01	
F-016	522B031010	○	E-6	GUIDE-ROLLER		01	
F-021	669D197020		F-6	SET-SCREW-F		01	
D-036	621D522010	○	E-7 F-7	SLIDER		02	
C-014	928D031010	○	L-2	ASSY-LOAD-MOTOR		2. 5	01
H-011	641B313010		M-3	HOLDER-MOTOR	01		
H-012	641C783010		M-4	GEEAR-WHEEL	01		
H-013	641C801010		M-2	GEAR-WORM	01		
H-014	621D525010		M-2	CUPLING	01		
H-015	552C007030	○	M-5	CUT-WASHER	01		
H-016	596D157010		M-1	PLATE-HOLDER-M	01		
H-020	288D025010	○	M-1	MOTOR-LOADING	M571		
H-035	650P300030		M-2	SCREW-F-FE-PAN	M3X0. 5-3		
C-015	928D032010	○	M-7	ASSY-AC-HEAD	T370		01
J-011	592C760010		M-6	ARM-AC		01	
J-015	460P092010	○	L-5	HEAD-AC		01	
J-020	570D593010		M-5	SPRING-AC		01	
J-025	215C376010		L-4	PWB-AC-F		01	
J-040	650P261040		M-5	SCREW-F-FE-PAN		M2. 6X0. 45-14	
J-041	669D227010		L-5	SCREW-TS		M2. 6X6	
J-042	669D206030		M-5	SCREW		01	
C-016	928D033010		B-4	ASSY-FE-HEAD		T371	01
K-011	460P061020	○	C-5	HEAD-FE			01
K-015	641C870010		B-4	HOLDER-FE	01		
C-017	948D020010	○	J-1	ASSY-ARM-PINCH		01	
L-011	591B536010		J-2	ARM-PINCH		01	
L-015	621D523010	○	J-3	CAP-ROLLER		01	
L-016	641C797010		J-4	LEVER-CAM-PINCH		01	
L-017	641C798010		J-3	LEVER-ARM-PINCH		01	
L-025	522D174010	○	J-2	ROLLER-PINCH		01	
L-035	572D314010		K-2	SPRING-PINCH		01	
L-036	572D315010	○	J-3	SPRING-CAM-PINCH		01	

9



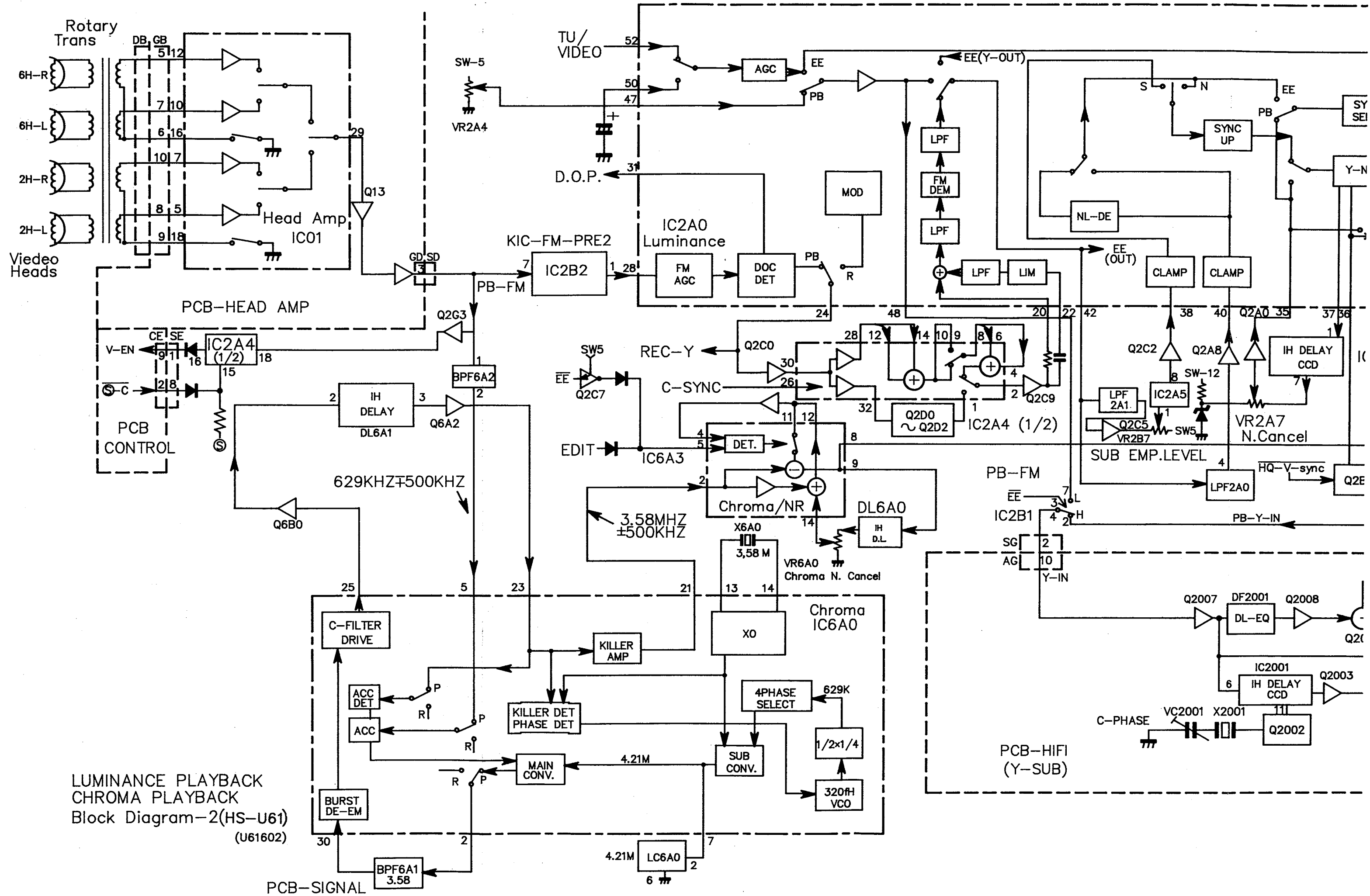


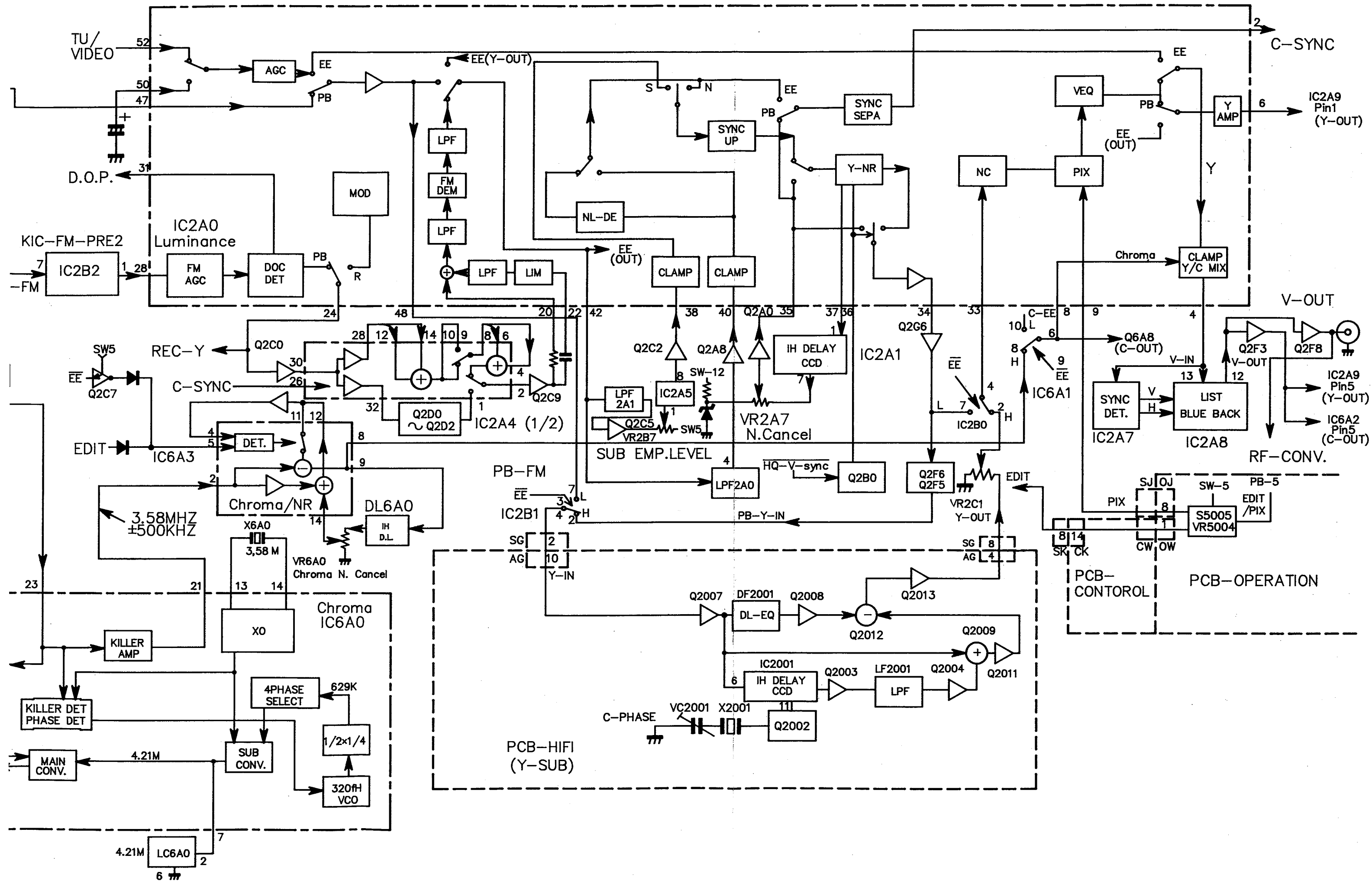
LUMINANCE RECORD,CHROMA RECORD Block Diagram-1 (HS-U61) (U61601)

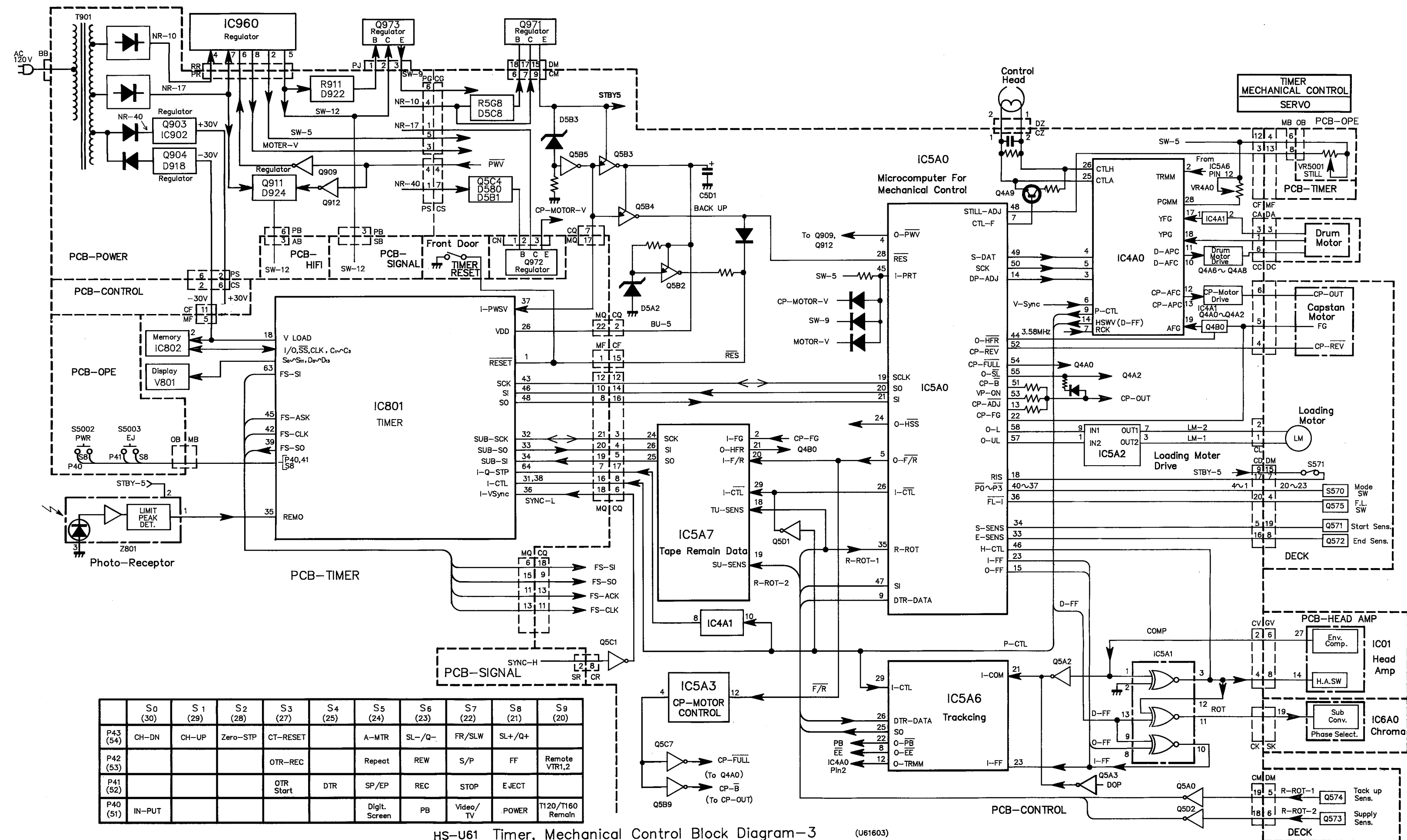


RD Block Diagram-1 (HS-U61) (U61601)



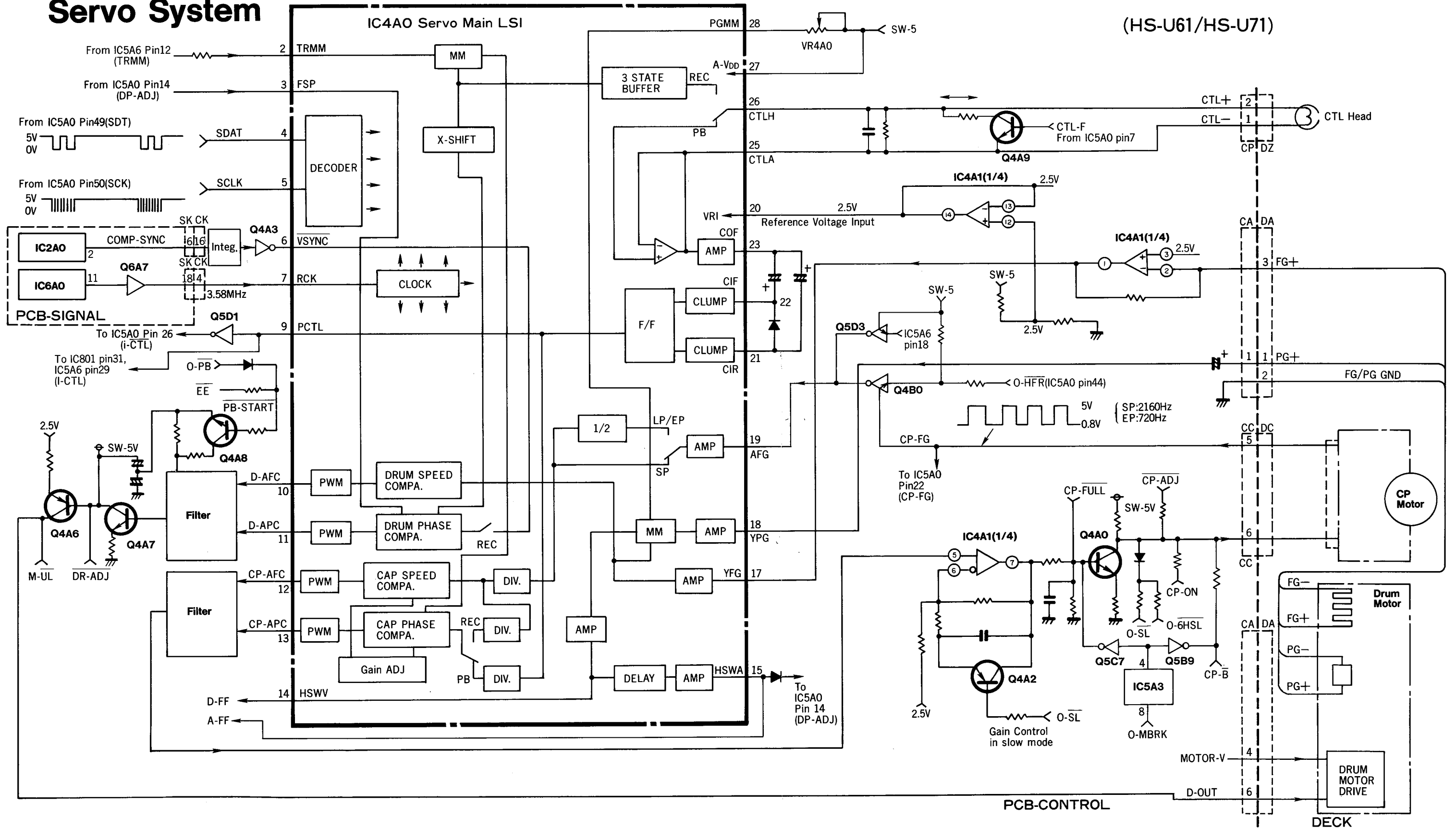






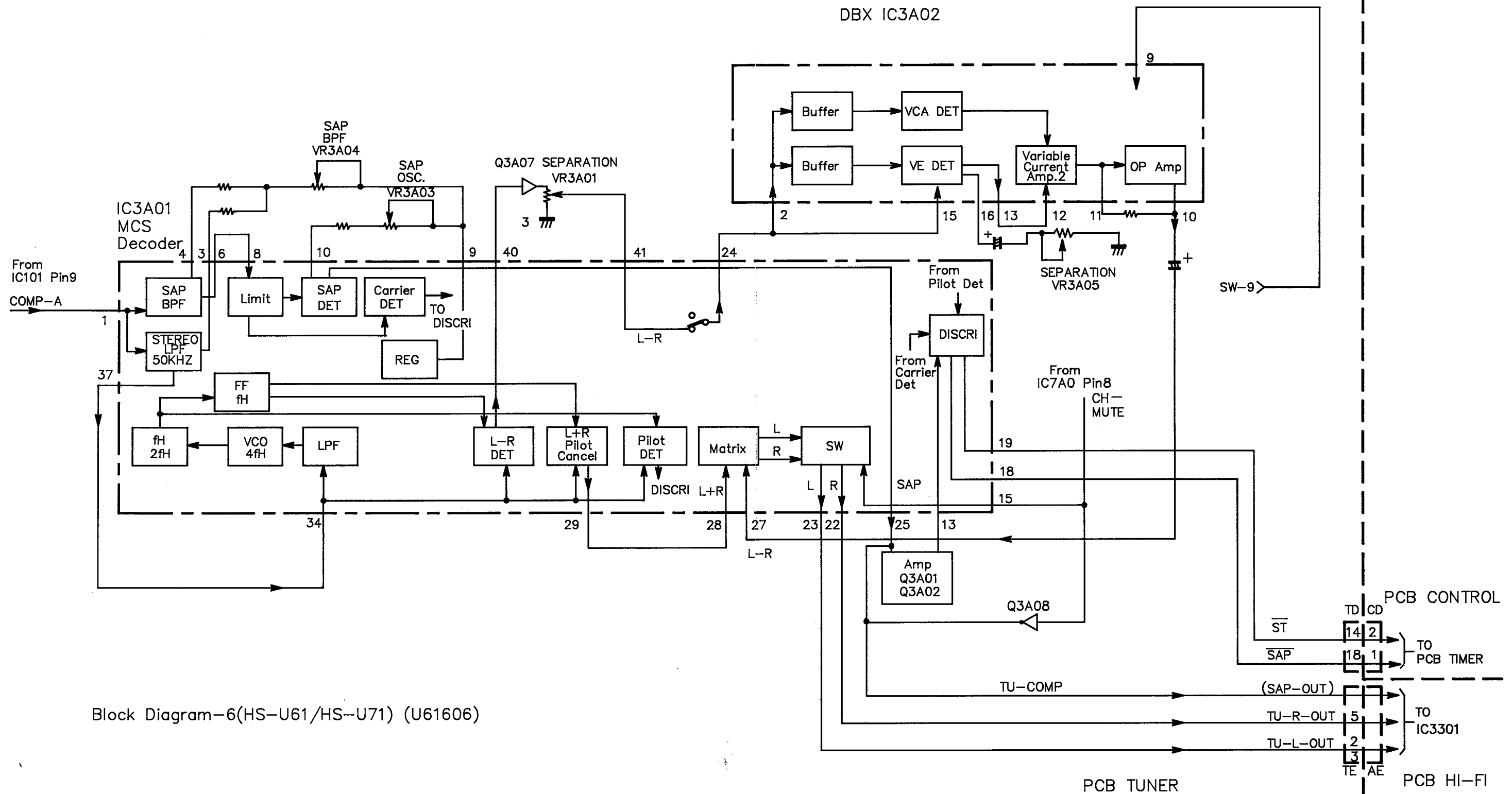
HS-U61 Timer, Mechanical Control Block Diagram-3 (U61603)

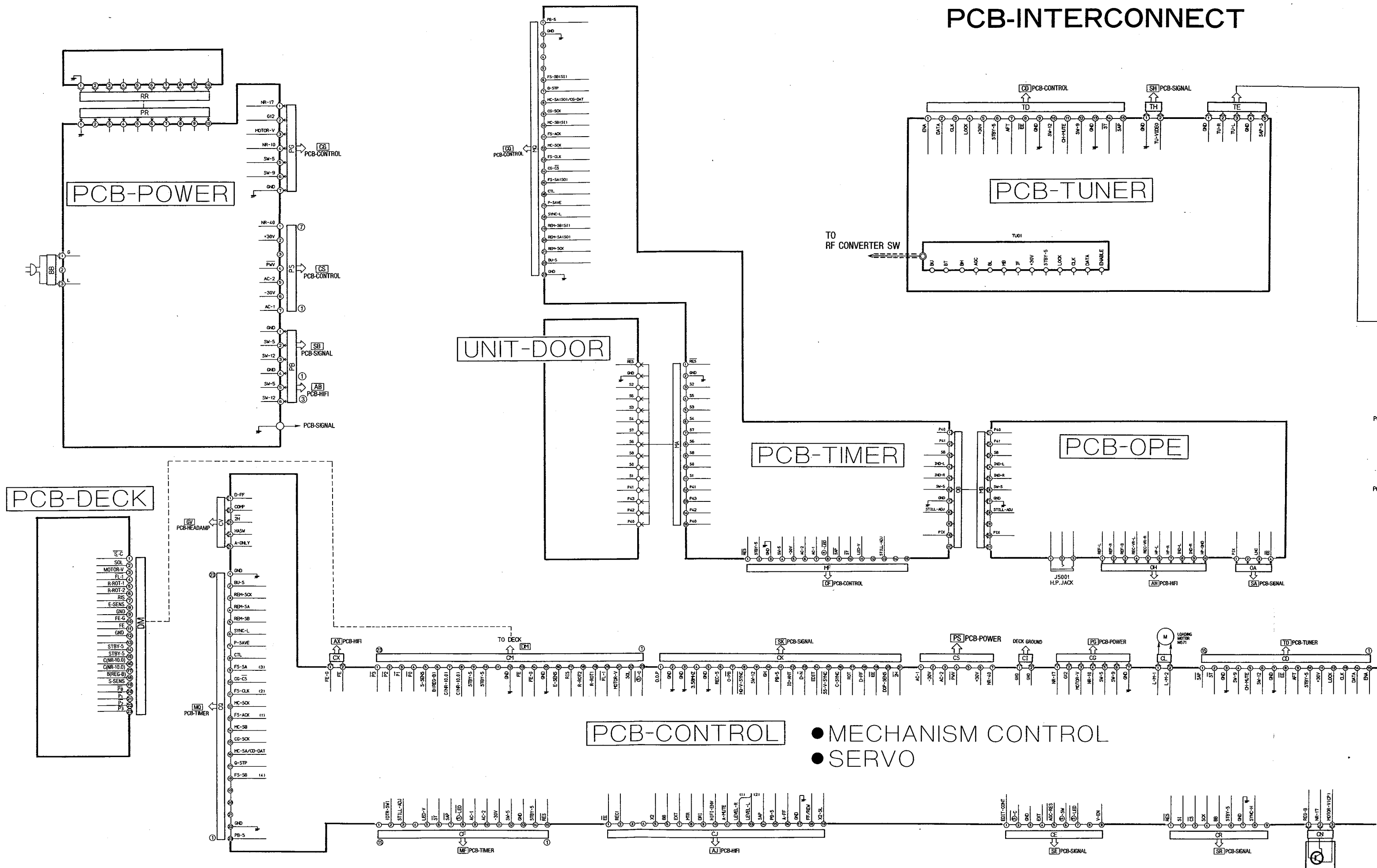
# Servo System





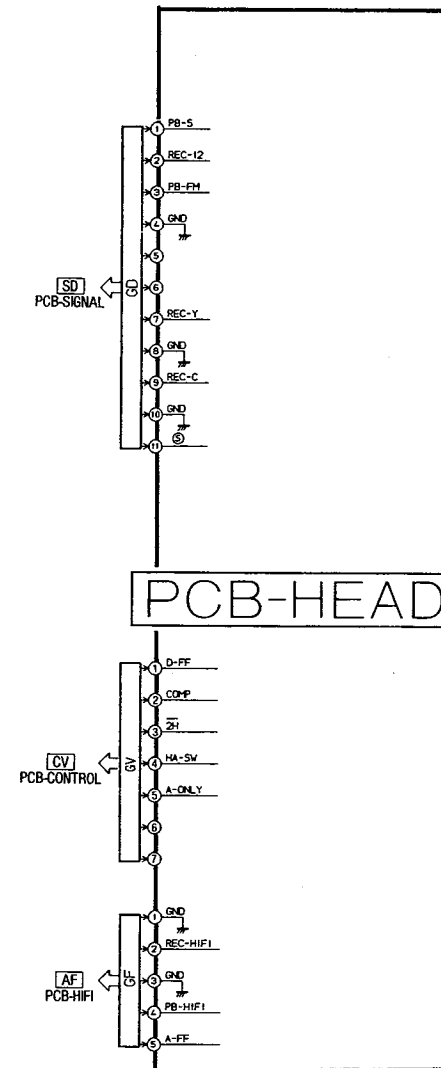
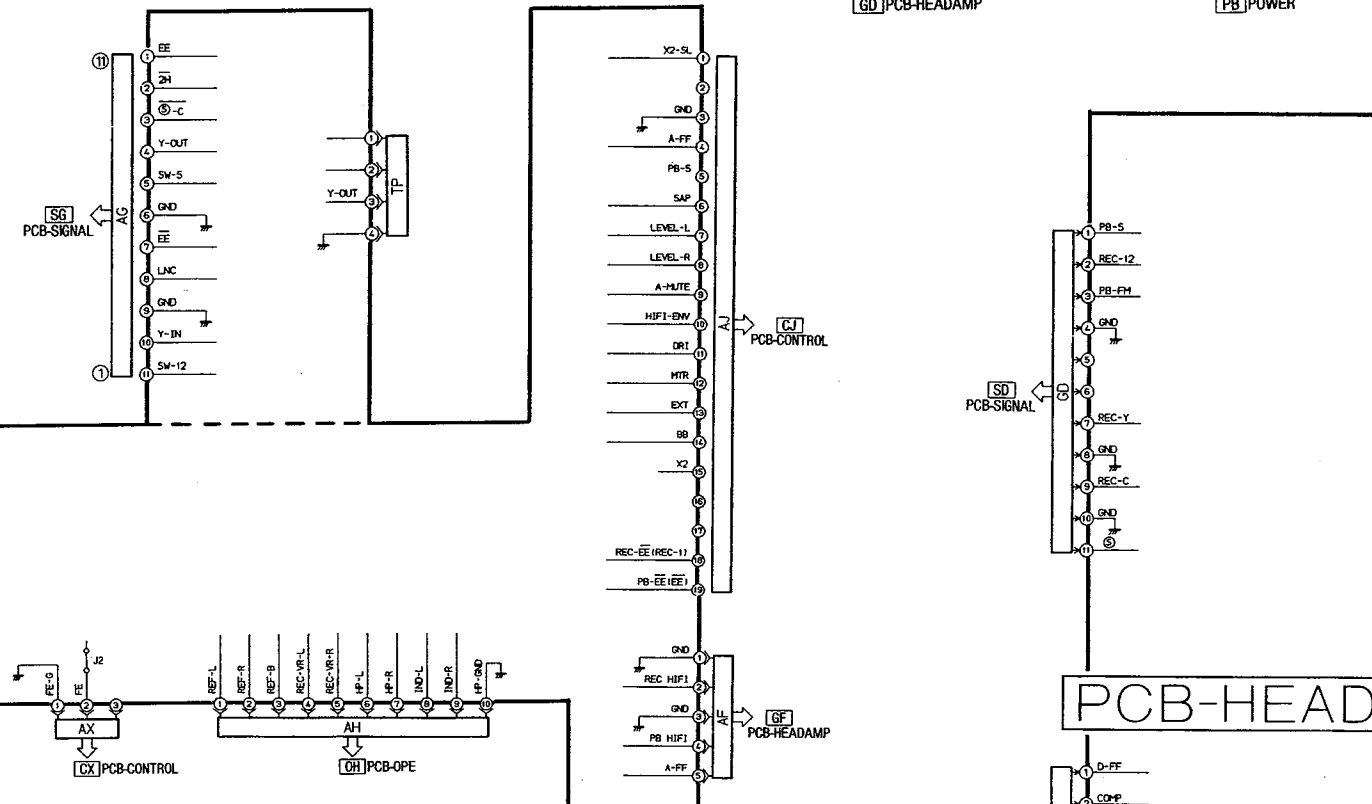
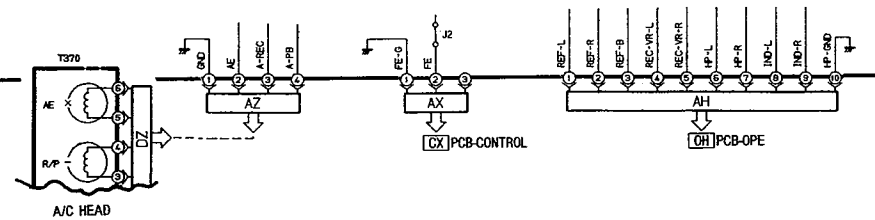
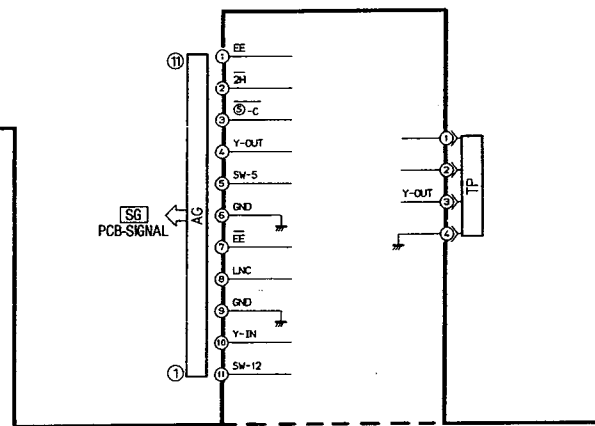
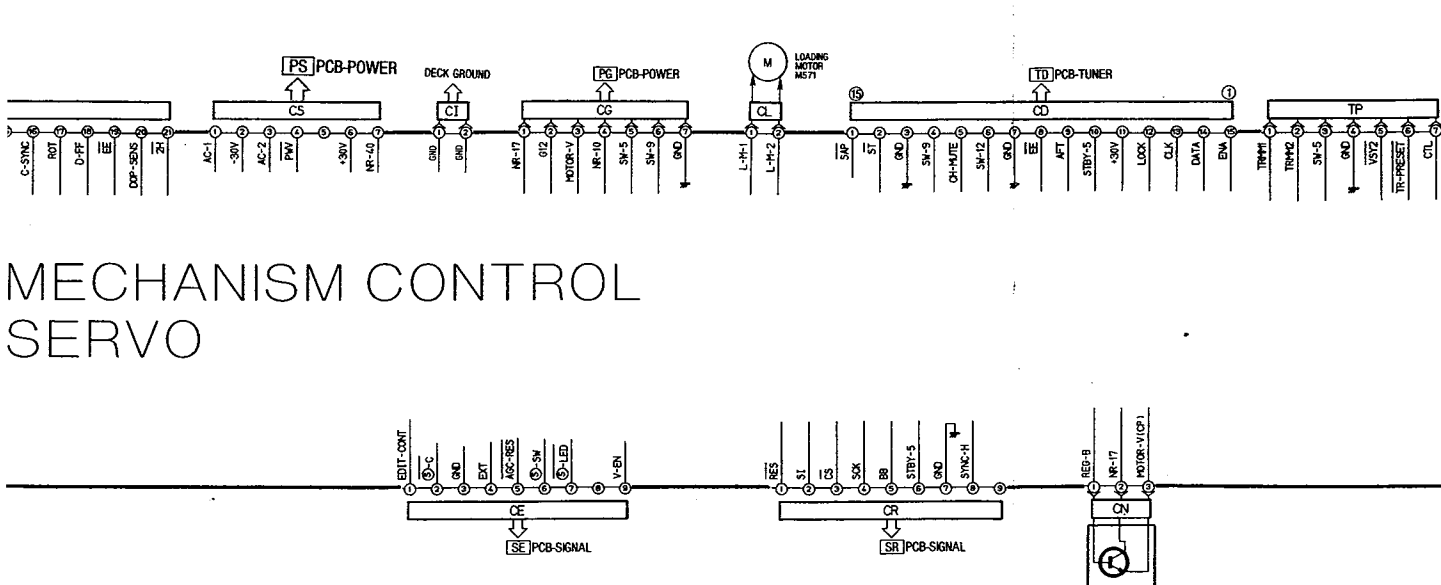
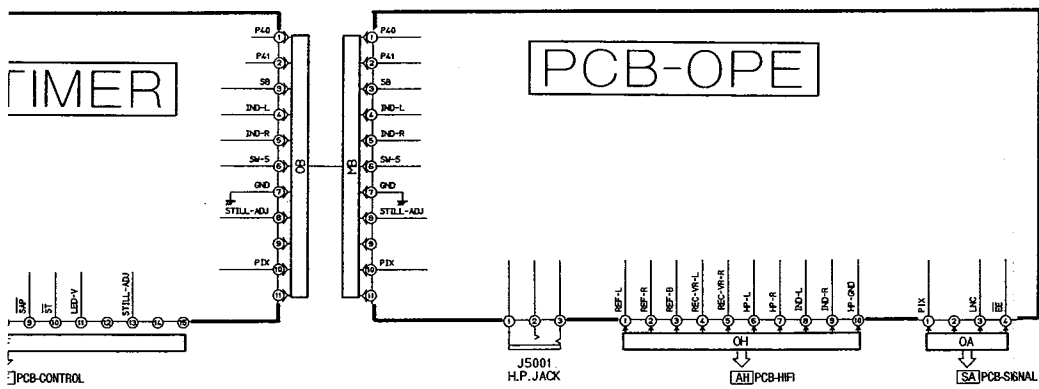
## MCS Decoder



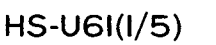


# PCB-INTERCONNECT

0  
F CONVERTER SW







SCHEMATIC DIAGRAM

NOTE 1:

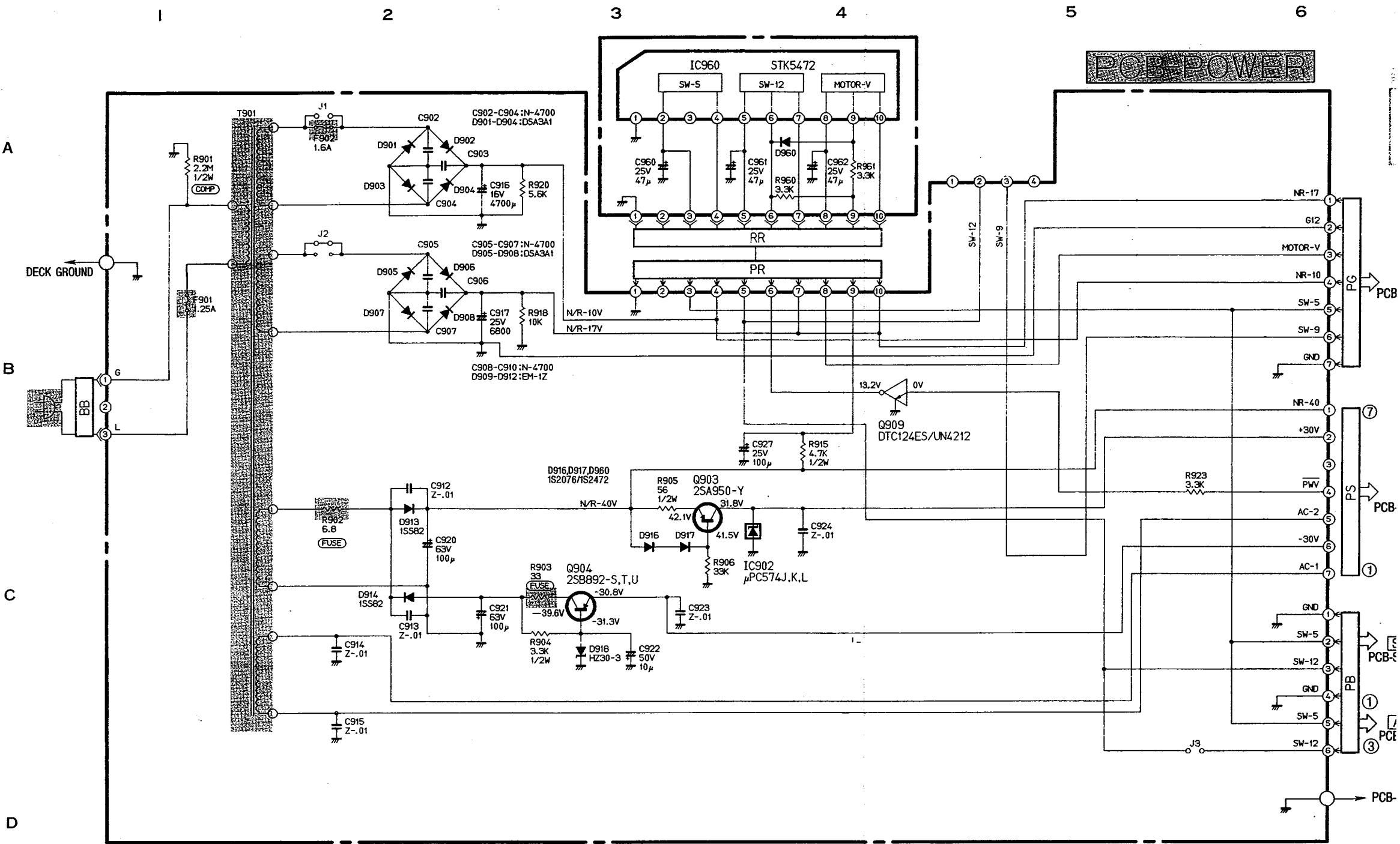
- 1. DC voltages were measured from points indicated to the circuit ground with a digital voltmeter.
- 2. The voltages parenthesised are on SP recording mode. While those without parenthesised on SP play back mode.

NOTE 2:

- 1. The unit of resistance "ohm" entirely omitted. Accordingly, K = 1000 ohms M = 1000K ohms.
- 2. The wattage of resistor, not specifically designated, is 1/4 watt.
- 3. Resistors, not specifically designated, are carbon resistors.
- 4. The marks of resistors are as follows.
  - CE : Cemented resistor
  - MB : Metal oxide film resistor (type B)
  - S : Fixed composition resistors
  - W : Wire wound resistor
  - M : Metal film resistor
- 5. The tolerance of resistor value, not specifically designated, is: ±5%, K = ±10% M = ±20%
- 6. The unit of capacitance, not specifically designated, is:
  - a) μF, for numbers less than 1
  - b) PF, for numbers more than 1
- 7. Capacitors, not specifically designated are Ceramic capacitors except electrolytic capacitors.
- 8. The marks of capacitors are as follows:
  - ALM : Aluminus electrolytic capacitor
  - MF : Polyester capacitor
  - PP : Polypropylene film capacitor
  - TAN : Tantalum capacitor
  - SC : Semiconductor Ceramic Capacitors
  - TF : Twin film capacitor
  - NP : Non polarized electrolytic capacitor
  - \* : Electrolytic capacitor
- 9. The DC working voltage of capacitor, not specifically designated is: 50V
- 10. The tolerance of capacitor value, not specifically designated is: ±10%  
and J = ±5% K = ±10% M = ±20% P = +100% - 0%  
C = ±0.25PF D = ±0.5PF F = ±1PF Z = +80% -20% N = ±30%
- 11. Ceramic capacitors with the marks RH, UJ, SL, etc. are temperature compensating types.

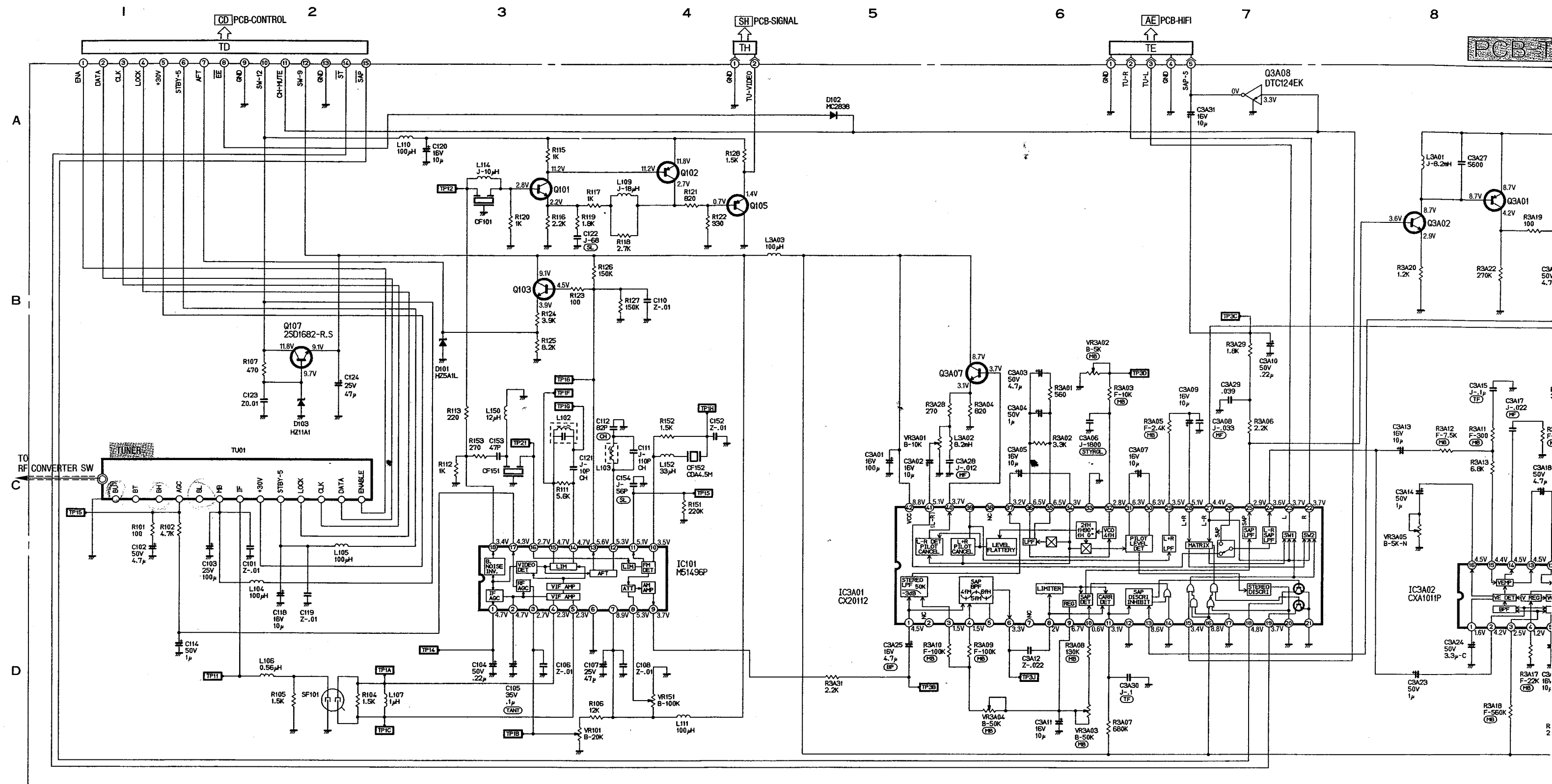
SPECIFIC SYMBOL	
	Zener Diode
	Varicap
	Posistor
	Thermistor
	Fusible Resistor
	Crystal unit
	LE Diode
	Photo Diode
	Ceramic filter
	DTA124ES/UN4112
	DTC124ES/UN4212

This is a basic schematic diagram. Some sets may be subject to modification according to engineering improvement.



SHADED COMPONENTS HAVE SPECIAL CHARACTERISTICS IMPORTANT TO SAFETY. BEFORE REPLACING ANY OF THESE COMPONENTS READ CAREFULLY THE PRODUCT SAFETY NOTICE IN THE SERVICE MANUAL. DON'T DEGRADE THE SAFETY OF THE RECEIVERS THROUGH IMPROPER SERVICING.

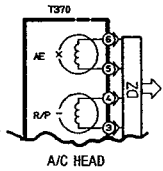
LES ELEMENTS CONSTITUTIFS HACHURES ONT DES CARACTERISTIQUES SPECIALES IMPORTANTES A LA SECURITE. AVANT DE REMPLACER L'UN OU L'AUTRE DE CES ELEMENTS, LIRE ATTENTIVEMENT LA NOTICE DE SECURITE D'APPAREIL DANS LE MANUEL DE SERVICE.  
NE PAS NUIRE A LA SECURITE DES RECEPTEURS PAR SERVICE NON APPROPRIE.



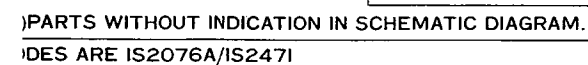
NOTE) PARTS WITHOUT INDICATION IN SCHEMATIC DIAGRAM.

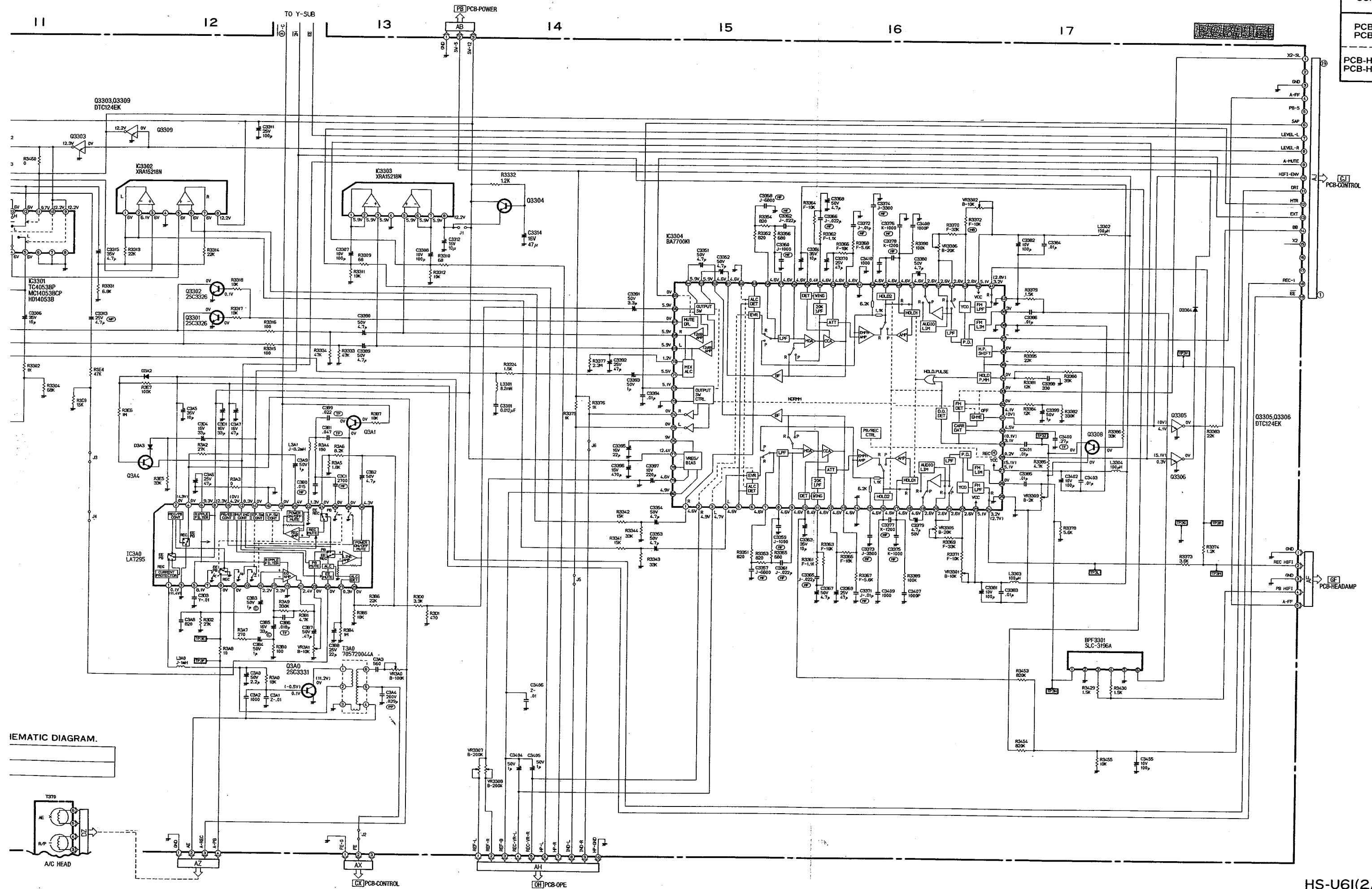
- PNP TRANSISTORS ARE 2SA1037K-Ⓢ
- NPN TRANSISTORS ARE 2SC2412K-Ⓢ

E







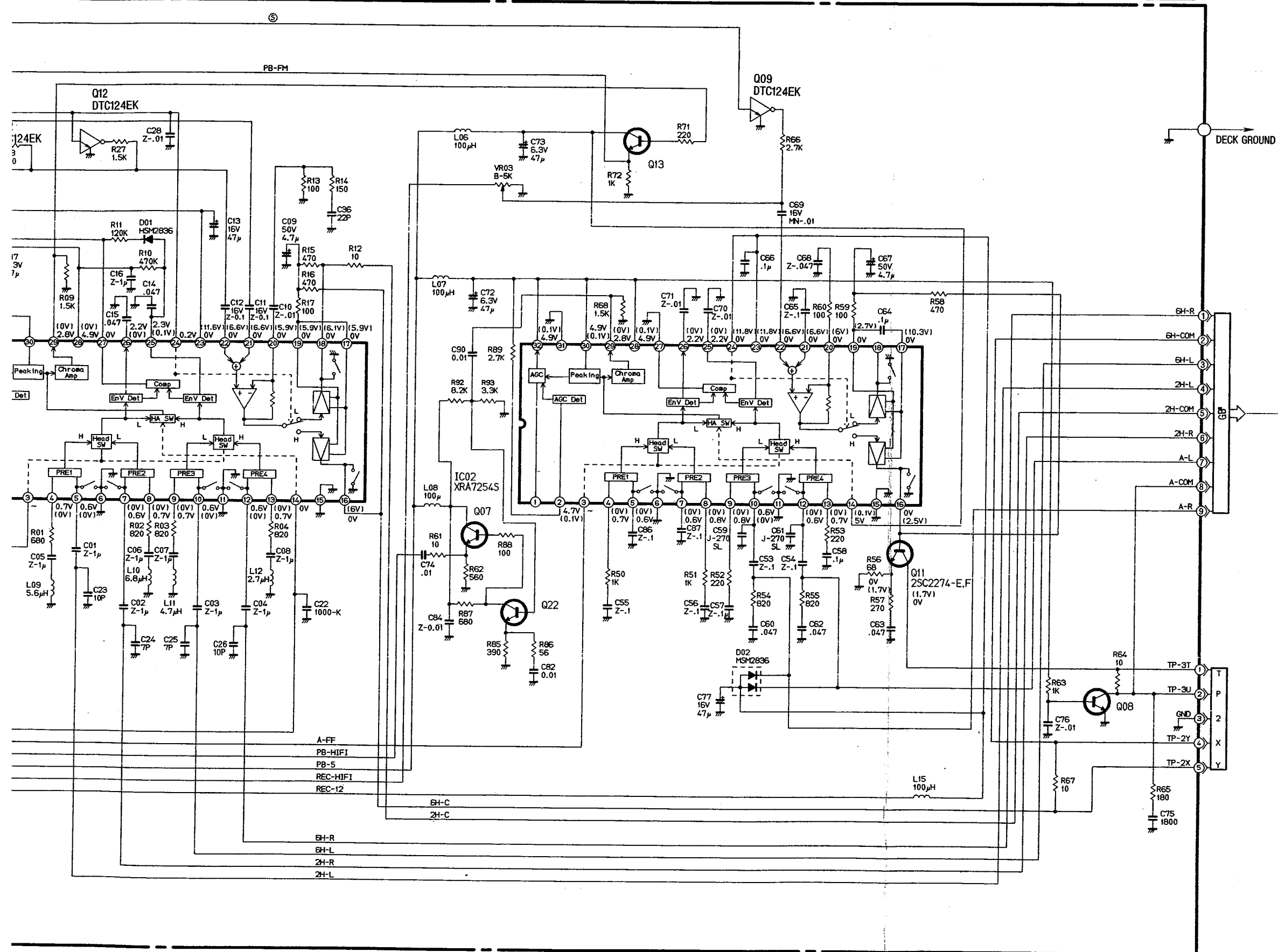








## PC HEADAMP



A

B

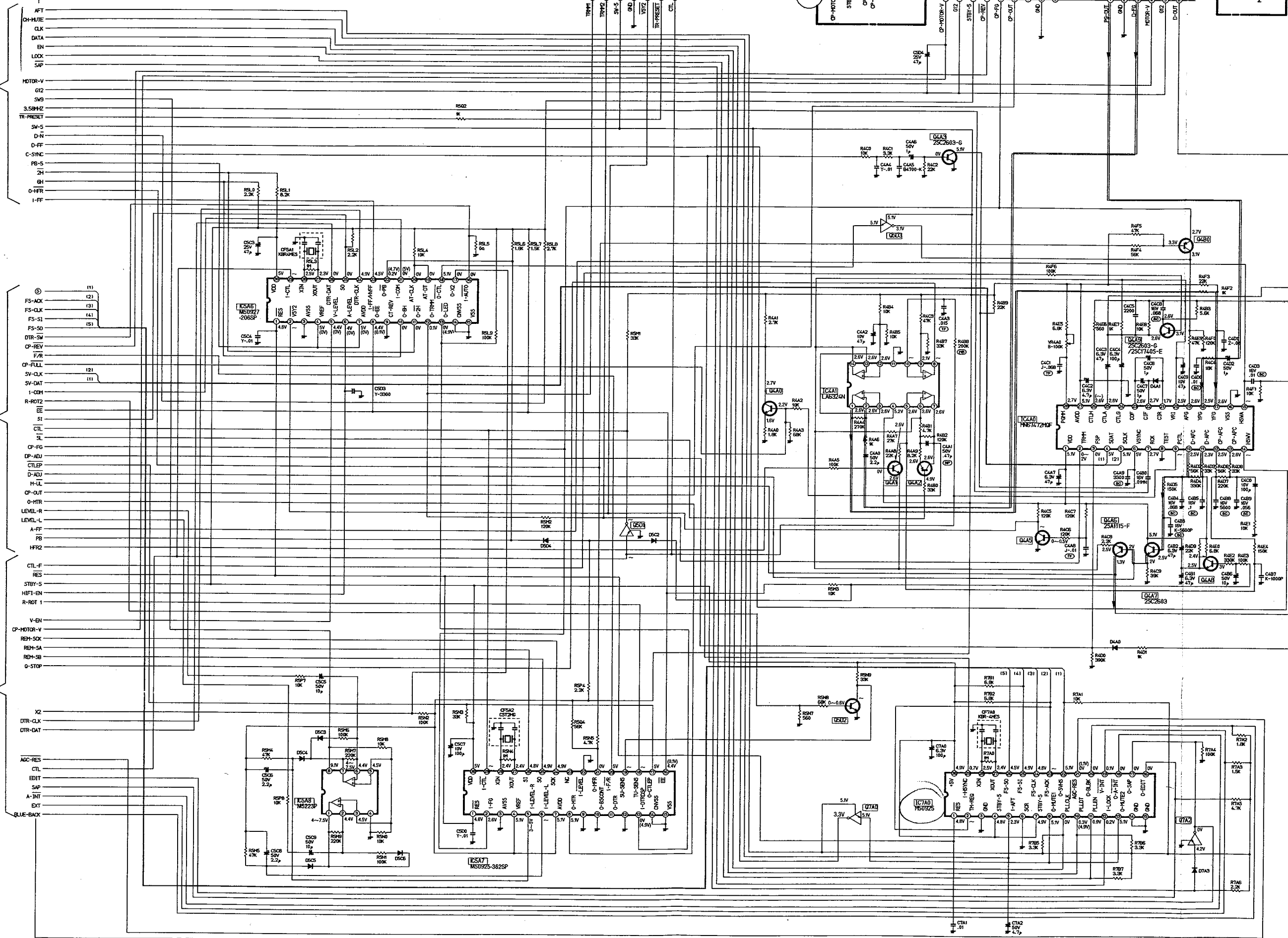
C

D

E

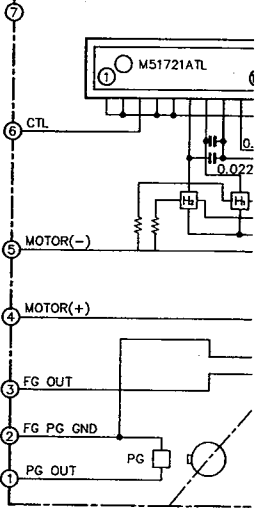
1 2 3 4 5 6 7 8

PCB CONTROL (SERVO)



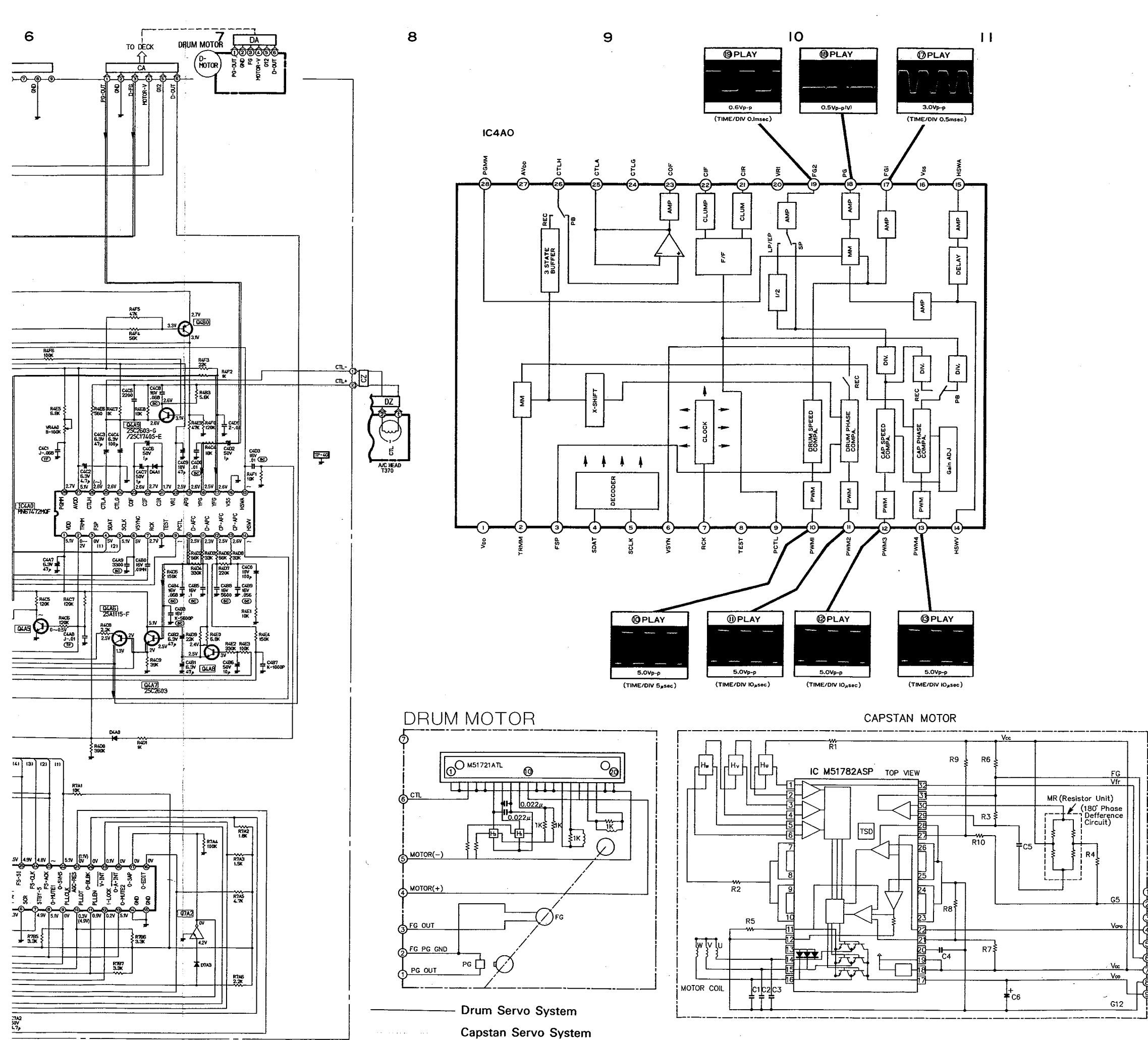
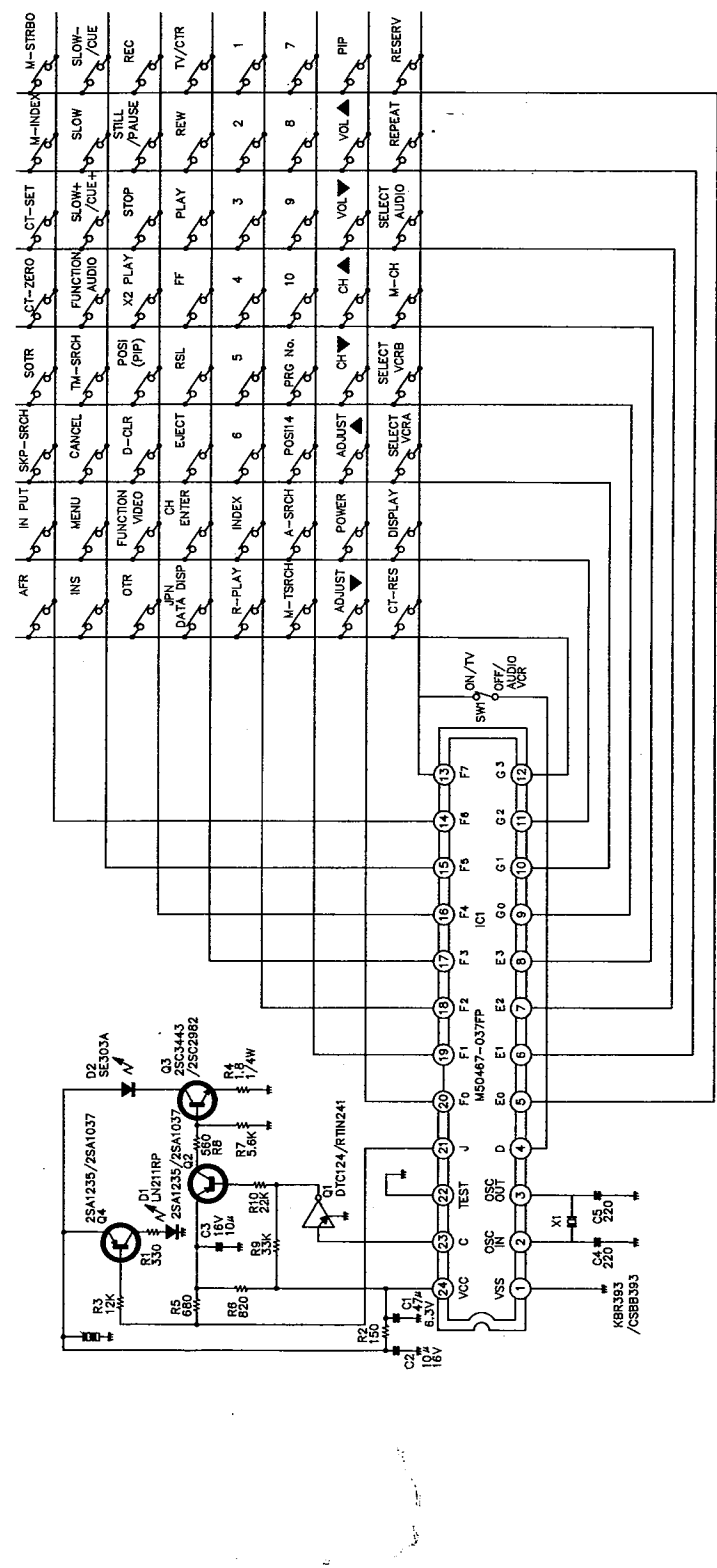
IC4A0

DRUM MOTOR



Drum Servo  
Capstan Se

## TRANSMITTER-REMOCON

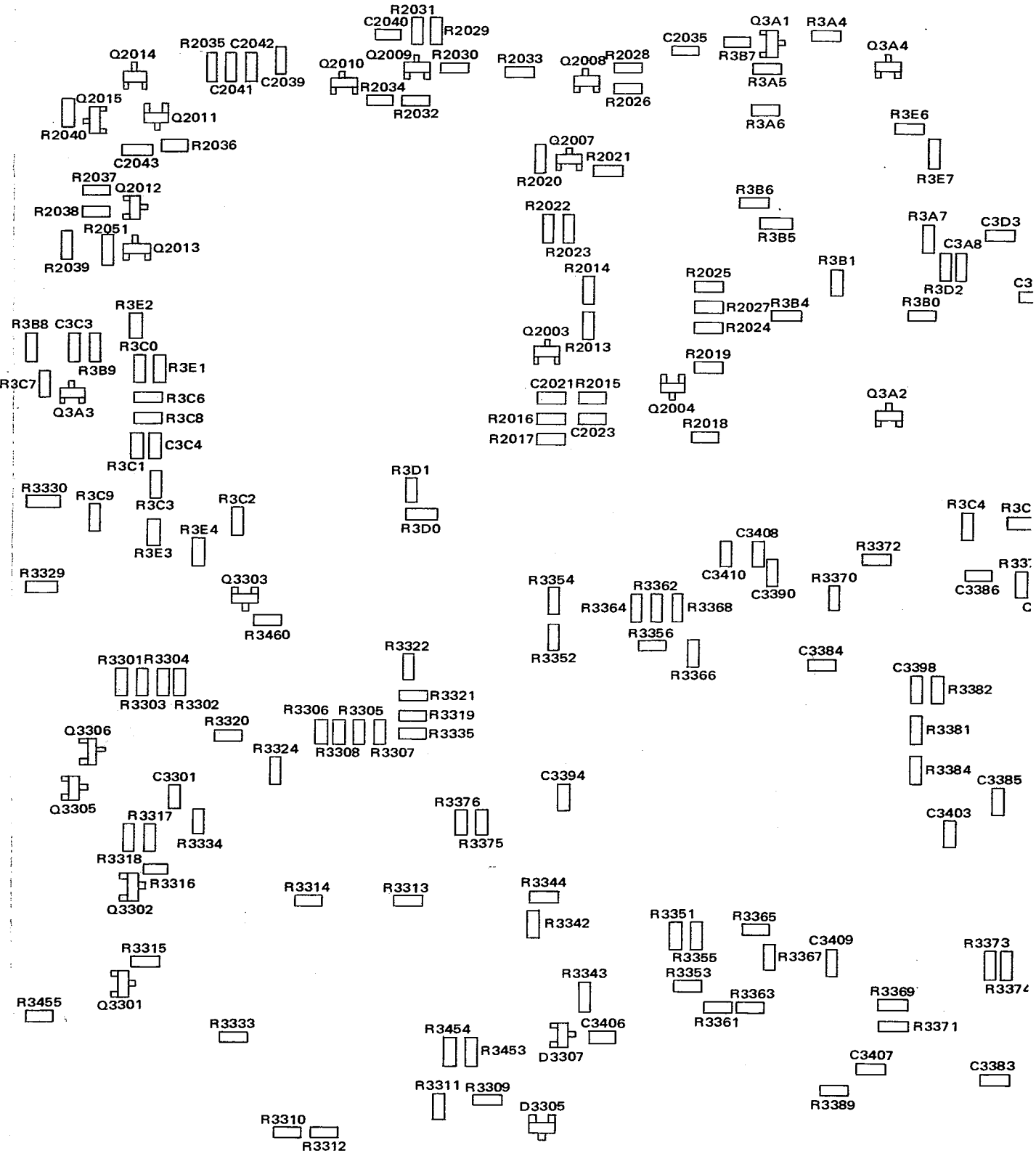


■ CHIP PARTS LIST (PCB — Hi — Fi)

PARTS No.	DESCRIPTION	IMPRINTING
TRANSISTORS		
260P807010	DTC124EK	25
260P818030	2SC2412K — S	BS
260P836020	2SC3326 — B	CCB
DIODES		
264P807010	DAP202K	P
RESISTORS		
103P401010	1/10W 68 — J	680
103P401030	1/10W 100 — J	101
103P401040	1/10W 120 — J	121
103P401060	1/10W 180 — J	181
103P401080	1/10W 270 — J	271
103P402000	1/10W 390 — J	391
103P402010	1/10W 470 — J	471
103P402020	1/10W 560 — J	561
103P402030	1/10W 680 — J	681
103P402040	1/10W 820 — J	821
103P402050	1/10W 1K — J	102
103P402060	1/10W 1.2K — J	122
103P402070	1/10W 1.5K — J	152
103P402080	1/10W 1.8K — J	182
103P402090	1/10W 2.2K — J	222
103P403030	1/10W 4.7K — J	472
103P403040	1/10W 5.6K — J	562
103P403050	1/10W 6.8K — J	682
103P403060	1/10W 8.2K — J	822
103P403070	1/10W 10K — J	103
103P403080	1/10W 12K — J	123
103P403090	1/10W 15K — J	153
103P404000	1/10W 18K — J	183
103P404010	1/10W 22K — J	223
103P404020	1/10W 27K — J	273
103P404030	1/10W 33K — J	333
103P404040	1/10W 39K — J	393
103P404050	1/10W 47K — J	473
103P404070	1/10W 68K — J	683
103P404090	1/10W 100K — J	104
103P405020	1/10W 180K — J	184
103P405050	1/10W 330K — J	334
103P406000	1/10W 820K — J	824
103P406010	1/10W 1M — J	106
103P409050	1/10W 00HM	00
103P472060	1/10W 1.1K — F	112
103P473080	1/10W 3.6K — F	362
103P474030	1/10W 5.6K — F	562
103P474090	1/10W 10K — F	103
103P475050	1/10W 18K — F	183
103P476010	1/10W 33K — J	333

PARTS No.	DESCRIPTION	IMPRINTING
CAPACITORS		
141P130030	B50V 330P — K	N2
141P130080	B50V 820P — K	Y2
141P130090	B50V 1000P — K	A3
141P132030	B50V 0.015M — K	E4
141P133050	F50V 1000P — Z	A3
141P133080	F50V 0.01M — Z	A4
154P321060	SL50V 15P — J	E1
154P322080	SL50V 47P — J	S1
154P323000	SL50V 56P — J	U1
154P323060	SL50V 100P — J	A2
154P326000	SL50V 1000P — J	A3
154P333030	CH50V 82P — J	Y1

LOCATION OF CHIP PARTS ON PCB-HIFI  
(SOLDER SIDE)



[illegible]

PARTS No.	DESCRIPTION	IMPRINTING
TRANSISTORS		
260P805090 260P806010 260P807010	2SC3053 – C,D DTA124K DTC124EK	FC,FD 15 25
DIODES		
264P821010	HSM2836	A4
RESISTORS		
103P359050 103P400010 103P401000 103P401030 103P401050 103P401060 103P401070 103P402010 103P402020 103P402030 103P402040 103P402050 103P402070 103P402090 103P403000 103P403010 103P403050 103P403060 103P405000 103P405070 103P409050 103P472010 103P472030	1/8W 00HM 1/10W 10 – J 1/10W 56 – J 1/10W 100 – J 1/10W 150 – J 1/10W 180 – J 1/10W 220 – J 1/10W 470 – J 1/10W 560 – J 1/10W 680 – J 1/10W 820 – J 1/10W 1K – J 1/10W 1.5K – J 1/10W 2.2K – J 1/10W 2.7K – J 1/10W 3.3K – J 1/10W 6.8K – J 1/10W 8.2K – J 1/10W 120K – J 1/10W 470K – J 1/10W 00HM 1/10W 680 – F 1/10W 820 – F	00 100 560 101 151 181 221 471 561 681 821 102 152 222 272 332 682 822 124 474 00 681 821
CAPACITORS		
141P131020 141P133080 141P134010 141P135080 154P324060	B50V 1800P – K B50V 0.01M – Z F50V 0.047M – Z F25V 0.1M – Z SL50V 270P – J	G3 A4 S4 A5 L2

The diagram is a schematic representation of a circuit board layout. It features numerous components, each represented by a small rectangle with a label. The components are interconnected by thin lines, indicating electrical connections. The labels include:

- Resistors (R):** R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12, R13, R14, R15, R16, R17, R18, R19, R20, R21, R22, R23, R24, R25, R26, R27, R28, R29, R30, R31, R32, R33, R34, R35, R36, R37, R38, R39, R40, R41, R42, R43, R44, R45, R46, R47, R48, R49, R50, R51, R52, R53, R54, R55, R56, R57, R58, R59, R60, R61, R62, R63, R64, R65, R66, R67, R68, R69, R70, R71, R72, R73, R74, R75, R76, R77, R78, R79, R80, R81, R82, R83, R84, R85, R86, R87, R88, R89, R90, R91, R92, R93, R94, R95, R96, R97, R98, R99, R100.
- Capacitors (C):** C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11, C12, C13, C14, C15, C16, C17, C18, C19, C20, C21, C22, C23, C24, C25, C26, C27, C28, C29, C30, C31, C32, C33, C34, C35, C36, C37, C38, C39, C40, C41, C42, C43, C44, C45, C46, C47, C48, C49, C50, C51, C52, C53, C54, C55, C56, C57, C58, C59, C60, C61, C62, C63, C64, C65, C66, C67, C68, C69, C70, C71, C72, C73, C74, C75, C76, C77, C78, C79, C80, C81, C82, C83, C84, C85, C86, C87, C88, C89, C90, C91, C92, C93, C94, C95, C96, C97, C98, C99, C100.
- Diodes (D):** D1, D2, D3, D4, D5, D6, D7, D8, D9, D10, D11, D12, D13, D14, D15, D16, D17, D18, D19, D20, D21, D22, D23, D24, D25, D26, D27, D28, D29, D30, D31, D32, D33, D34, D35, D36, D37, D38, D39, D40, D41, D42, D43, D44, D45, D46, D47, D48, D49, D50, D51, D52, D53, D54, D55, D56, D57, D58, D59, D60, D61, D62, D63, D64, D65, D66, D67, D68, D69, D70, D71, D72, D73, D74, D75, D76, D77, D78, D79, D80, D81, D82, D83, D84, D85, D86, D87, D88, D89, D90, D91, D92, D93, D94, D95, D96, D97, D98, D99, D100.
- Integrated Circuits (ICs):** IC1, IC2, IC3, IC4, IC5, IC6, IC7, IC8, IC9, IC10, IC11, IC12, IC13, IC14, IC15, IC16, IC17, IC18, IC19, IC20, IC21, IC22, IC23, IC24, IC25, IC26, IC27, IC28, IC29, IC30, IC31, IC32, IC33, IC34, IC35, IC36, IC37, IC38, IC39, IC40, IC41, IC42, IC43, IC44, IC45, IC46, IC47, IC48, IC49, IC50, IC51, IC52, IC53, IC54, IC55, IC56, IC57, IC58, IC59, IC60, IC61, IC62, IC63, IC64, IC65, IC66, IC67, IC68, IC69, IC70, IC71, IC72, IC73, IC74, IC75, IC76, IC77, IC78, IC79, IC80, IC81, IC82, IC83, IC84, IC85, IC86, IC87, IC88, IC89, IC90, IC91, IC92, IC93, IC94, IC95, IC96, IC97, IC98, IC99, IC100.
- Other components:** J1, J2, J3, J4, J5, J6, J7, J8, J9, J10, J11, J12, J13, J14, J15, J16, J17, J18, J19, J20, J21, J22, J23, J24, J25, J26, J27, J28, J29, J30, J31, J32, J33, J34, J35, J36, J37, J38, J39, J40, J41, J42, J43, J44, J45, J46, J47, J48, J49, J50, J51, J52, J53, J54, J55, J56, J57, J58, J59, J60, J61, J62, J63, J64, J65, J66, J67, J68, J69, J70, J71, J72, J73, J74, J75, J76, J77, J78, J79, J80, J81, J82, J83, J84, J85, J86, J87, J88, J89, J90, J91, J92, J93, J94, J95, J96, J97, J98, J99, J100.

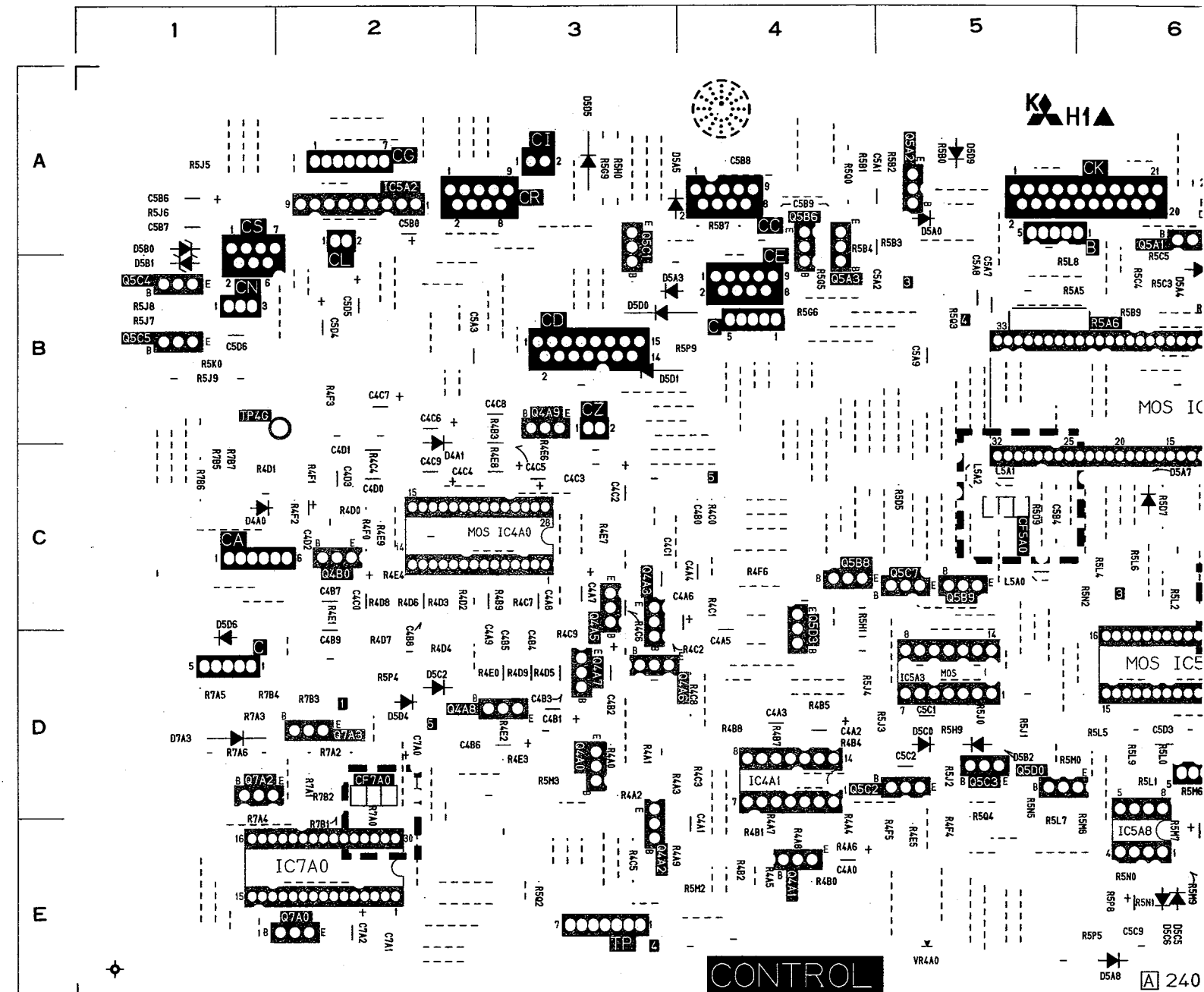
SYMBOL NO.	ADDRESS	SYMBOL NO.	ADDRESS	SYMBOL NO.	ADDRESS	SYMBOL NO.
CF2A0	D-2	1C6A1	B-2			06A6
		1C6A2	C-2	Q2A2	B-7	06A7
		1C6A3	B-2	Q2A3	B-6	06A8
				Q2A4	C-7	
D2A0	D-1			Q2A5	B-7	06B0
D2A1	A-7			Q2A6	C-8	06B1
D2A3	B-6	L2A0	A-8	Q2A7	C-8	
D2A4	B-6	L2A1	A-6	Q2A8	B-7	
D2A5	B-6	L2A2	C-8	Q2A9	B-6	TP1
D2A6	E-5	L2A5	D-6	Q2B0	C-7	TP20
D2A7	A-6	L2A6	D-6	Q2B1	C-6	TP24
D2A8	D-1	L2A7	B-6	Q2B2	B-6	TP25
D2B0	E-6	L2A8	B-5	Q2B3	B-5	TP27
D2B2	B-4	L2A9	B-5	Q2B4	E-2	TP28
D2B3	C-5	L2B0	B-5	Q2C0	C-6	TP29
D2B5	D-3	L2B1	B-5	Q2C1	D-5	TP2A
		L2B2	B-5	Q2C2	A-6	TP2B
		L2B3	E-8	Q2C3	A-7	TP2C
D2B8	D-3	L2B4	D-5	Q2C4	A-7	TP2E
D2B9	D-3	L2B5	E-7	Q2C5	A-6	TP2G
D2C0	D-3	L2B6	C-5	Q2C6	A-6	TP2H
D2C1	C-4	L2B8	B-1	Q2C7	A-6	TP2J
		L2C2	D-3	Q2C9	C-5	TP2K
		L2C3	E-3	Q2D0	B-6	TP2L
D2D0	B-8	L2C4	D-2	Q2D1	B-6	TP2M
D6A0	D-5	L2C5	D-2	Q2D2	C-6	TP2S
D6A1	D-6	L2C6	D-1	Q2D3	E-7	TP47
D6A2	D-4	L2C7	C-4	Q2D4	D-7	TP6G
D6A3	B-3	L2C8	D-4	Q2D5	E-8	TP6J
D6A4	B-2	L2C9	D-2			TP6L
D6A5	B-2	L2D0	C-2	Q2E0	E-5	
D6A6	E-6	L2D1	D-5	Q2E1	B-5	
D6A7	D-6			Q2E2	C-2	VC2A0
D6A8	B-2	L2F0	A-8	Q2E3	C-3	
D6A9	B-2	L2S0	B-1	Q2E4	B-5	
		L6A0	A-2	Q2E5	B-4	VR2A0
		L6A1	D-2	Q2E6	D-4	VR2A1
DF2A1	D-6	L6A2	D-1	Q2E8	D-3	VR2A2
DF2A2	C-4	L6A3	A-5	Q2F1	E-6	VR2A3
		L6A4	B-4	Q2F2	E-6	VR2A4
		L6A5	B-4	Q2F3	D-1	VR2A5
DL6A0	A-3	L6A6	B-4	Q2F4	B-8	VR2A7
		L6A7	A-1	Q2F5	B-8	VR2A8
		L6A8	A-2	Q2F6	B-7	VR2A9
		L6A9	D-2	Q2F7	D-4	VR2B0
1C2A0	C-7	L6B0	B-1	Q2F8	E-2	VR2B2
1C2A1	A-8	L6B1	B-3	Q2F9	E-7	VR2B4
		L6B5	A-5	Q2G0	E-7	VR2B7
1C2A3	C-1	L6B6	B-3	Q2G1	C-5	VR2B9
1C2A4	C-5	L6B7	A-3	Q2G2	D-5	VR2C0
1C2A5	A-5			Q2G3	C-4	VR2C1
1C2A6	E-7			Q2G4	D-4	VR6A0
1C2A7	C-3	LC6A0	B-3	Q2G5	E-5	
1C2A8	E-3			Q2G6	B-7	
1C2A9	C-2			Q6A0	A-3	X2A0
1C2B0	B-8	LPF2A0	A-7	Q6A1	A-4	X6A0
1C2B1	B-8	LPF2A1	B-5	Q6A2	A-3	
1C2B2	C-6	LPF6A2	C-3	Q6A3	B-4	
1C2B3	E-6			Q6A4	C-4	
1C2B4	B-7			Q6A5	A-1	
1C6A0	B-3	Q2A0	A-7			



# PCB - SIGNAL

SYMBOL NO.	ADDRESS	SYMBOL NO.	ADDRESS	SYMBOL NO.	ADDRESS	SYMBOL NO.	ADDRESS
CF2A0	D-2	IC6A1	B-2			Q6A6	B-2
		IC6A2	C-2	Q2A2	B-7	Q6A7	B-3
		IC6A3	B-2	Q2A3	B-6	Q6A8	D-2
D2A0	D-1			Q2A4	C-7		
D2A1	A-7			Q2A5	B-7	Q6B0	A-4
D2A3	B-6	L2A0	A-8	Q2A6	C-8	Q6B1	C-4
D2A4	B-6	L2A1	A-6	Q2A7	C-8		
D2A5	B-6	L2A2	C-8	Q2A8	B-7		
D2A6	E-5	L2A5	D-6	Q2A9	B-6	TP1	A-8
D2A7	A-6	L2A6	D-6	Q2B0	C-7	TP20	C-8
D2A8	D-1	L2A7	B-6	Q2B1	C-6	TP24	A-5
D2B0	E-6	L2A8	B-5	Q2B2	B-6	TP25	A-5
D2B2	B-4	L2A9	B-5	Q2B3	B-5	TP27	B-7
D2B3	C-5	L2B0	B-5	Q2B4	E-2	TP28	C-2
D2B5	D-3	L2B1	B-5	Q2C0	C-6	TP29	A-6
		L2B2	B-5	Q2C1	D-5	TP2A	D-3
D2B8	D-3	L2B3	E-8	Q2C2	A-6	TP2B	B-6
D2B9	D-3	L2B4	D-5	Q2C3	A-7	TP2C	D-3
D2C0	D-3	L2B5	E-7	Q2C4	A-7	TP2E	C-6
D2C1	C-4	L2B6	C-5	Q2C5	A-6	TP2G	D-8
		L2B8	B-1	Q2C6	A-6	TP2H	B-6
D2D0	B-8	L2C2	D-3	Q2C7	A-6	TP2J	B-1
D6A0	D-5	L2C3	E-3	Q2C9	C-5	TP2K	B-6
D6A1	D-6	L2C4	D-2	Q2D0	B-6	TP2L	B-7
D6A2	D-4	L2C5	D-2	Q2D1	B-6	TP2M	D-6
D6A3	B-3	L2C6	D-1	Q2D2	C-6	TP2S	D-5
D6A4	B-2	L2C7	C-4	Q2D3	E-7	TP47	D-4
D6A5	B-2	L2C8	D-4	Q2D4	D-7	TP6G	C-3
D6A6	E-6	L2C9	D-2	Q2D5	E-8	TP6J	B-3
D6A7	D-6	L2D0	C-2			TP6L	A-2
D6A8	B-2	L2D1	D-5	Q2E0	E-5		
D6A9	B-2			Q2E1	B-5	VC2A0	E-4
		L2F0	A-8	Q2E2	C-2		
DF2A1	D-6	L2S0	B-1	Q2E3	C-3		
DF2A2	C-4	L6A0	A-2	Q2E4	B-5	VR2A0	D-7
		L6A1	D-2	Q2E5	B-4	VR2A1	C-6
DL6A0	A-3	L6A2	D-1	Q2E6	D-4	VR2A2	C-6
		L6A3	A-5	Q2E8	D-3	VR2A3	C-7
		L6A4	B-4	Q2F1	E-6	VR2A4	C-8
		L6A5	B-4	Q2F2	E-6	VR2A5	A-5
		L6A6	B-4	Q2F3	D-1	VR2A7	A-7
		L6A7	A-1	Q2F4	B-8	VR2A8	E-7
		L6A8	A-2	Q2F5	B-8	VR2A9	C-6
		L6A9	D-2	Q2F6	B-7	VR2B0	B-6
IC2A0	C-7	L6B0	B-1	Q2F7	D-4	VR2B2	B-7
IC2A1	A-8	L6B1	B-3	Q2F8	E-2	VR2B4	A-7
IC2A3	C-1	L6B5	A-5	Q2F9	E-7	VR2B7	A-6
IC2A4	C-5	L6B6	B-3	Q2G0	E-7	VR2B9	A-7
IC2A5	A-5	L6B7	A-3	Q2G1	C-5	VR2C0	B-8
IC2A6	E-7			Q2G2	D-5	VR2C1	B-8
IC2A7	C-3	LC6A0	B-3	Q2G3	C-4	VR6A0	A-2
IC2A8	E-3			Q2G4	D-4		
IC2A9	C-2			Q2G5	E-5		
IC2B0	B-8	LPF2A0	A-7	Q2G6	B-7	X2A0	D-3
IC2B1	B-8	LPF2A1	B-5	Q6A0	A-3	X6A0	B-3
IC2B2	C-6	LPF6A2	C-3	Q6A1	A-4		
IC2B3	E-6			Q6A2	A-3		
IC2B4	B-7			Q6A3	B-4		
IC6A0	B-3	Q2A0	A-7	Q6A4	C-4		
				Q6A5	A-1		

# PCB-CONTROL





[illegible]

[illegible]

SYMBOL NO.	ADDRESS
D2001	B-2
D2002	A-2
D2003	A-2
D3303	D-1
D3304	C-1
D3A2	A-5
D3A3	A-4
DF2001	B-4
IC2001	B-2
IC3301	C-2
IC3302	E-2
IC3303	E-2
IC3A0	A-4
L2001	C-3
L2002	B-3
L2003	B-3
L2004	B-3
L2005	B-2
L2006	B-2
L2008	A-4
L2009	A-3
L2010	A-2
L2011	A-2
L3301	D-2
L3302	C-4
L3303	E-5
L3304	D-5
L3A0	B-5
L3A1	A-4
LF2001	B-3
Q2002	C-2
Q3A0	B-5
TP	A-3
TP3E	B-5
TP3F	A-5
TP3G	D-5
TP3L	E-5
TP3M	E-5
TP3N	C-5
TP3R	E-4
TP3Y	C-5
TP3Z	C-5

[illegible]

The diagram is a detailed schematic of a circuit board, identified by the part number **C 215B35301** in the top right corner. The board is populated with a variety of electronic components, including:

- Resistors:** Labeled R1 through R93, distributed across the board.
- Capacitors:** Labeled C1 through C39, including electrolytic capacitors like C100 and C101.
- Integrated Circuits:** IC1, IC2, and IC3 are shown in the center and right sections.
- Connectors:** J1 through J25 are located along the edges and within the board layout.
- Transformer:** A large transformer, T1, is located in the upper right quadrant.
- Other Components:** Diodes (D1, D2), inductors (L1, L2), and other passive components are also present.

The board is marked with a large **G1** logo in the upper left and the text **TP2XY** near the top center. The layout is organized into functional blocks, with components grouped together for assembly and testing. The board is labeled with **VR01** and **VR02** in the top right corner.

PC  
I  
BE  
PC



**[A]** 215B38301

© 215B35301

**B** 215B35101

# TIMER

